THE

MARYLAND FARMER:

DEVOTED TO

Agriculture, Horticulture, Rural Economy & Mechanic Arts.

Vol. 6. BALTIMORE, September, 1869. No. 9.

MEADOW LANDS, AND HOW TO MANAGE THEM.

Mr. N. Platt, of Bradford county, Pennsylvania, made some sensible remarks recently before the American Institute Farmer's Club. He was giving his experience in the management of grass lands — He stated that it was his practice after seeding down to grass not to plough the land again in less than eight years. He has one meadow which has been mowed for sixteen successive years, and "it was never better, he said, than now." Indeed he has found that his meadows under the right treatment "grow better as they grow older."

Now what is this right treatment? *Simply to return annually to the soil the equivalents in manure which have been taken from it in crops.* The whole secret of successful farming lies in that one sentence.

But this thing is to be understood. No land that is naturally poor and thin will grow good crops of grass, or of anything else, for any successive number of years. The presumption is, and we deduce the fact from Mr. Platt's general mode of farming, that he never puts down any land to grass that is not naturally rich or has not been made so by high manuring. This is the first consideration—the second is that the soil shall be *deeply* and thoroughly plowed and reduced by repeated plowings and harrowings to the finest possible condition of tilth—no clods—no stones—no balks. The third is that the soil shall be clean; that there shall be neither weeds nor briars nor wild grasses to run out the cultivated ones. With land so enriched and so prepared there is no earthly reason why the grass should not improve from year to year as Mr. Platt says that it does.

"I keep up my meadows," he says, "*by returning to them all the hay that was taken from them* and by sowing a bushel of gypsum per acre each year." That is to say, he feeds off all his hay on the farm, and returns it to the meadows from which it was taken in the shape of manure. This manure he applies annually as a top-dressing. The result is that it produces as much worth in grass as it would have done in grain, *and reproduces itself again in turf.*— And here follows an important matter. "My turf," he says, "when ready for ploughing under is a solid body of grass roots, twelve inches deep or more, and so thick on top that no soil can be seen."

It is the custom of English landlords in letting their farms on long leases to stipulate that one-third of the land shall be kept in permanent grasses.— The consequence is that on soils adapted to grass the sod improves year after year, being thickened annually by the dropping of the under leaves, which thus cover the soil with a mat of dead leaves, keeping it moist in the dryest weather, and rich by the gradual decay of the leaves.

We have always urged on large farms, and where the soil was suitable, that dairy farming on the lines of railroad, within easy distance of great cities, should be combined with the cultivation of the ordinary crops. By this means the hay, straw and fodder is fed on the farm instead of being sold from it, and the manure so produced tends to gradually enrich the soil without having to resort to commercial fertilizers. Where dairy farming cannot be pursued, stock feeding will often be found desirable.— We do not mean stock raising; that is a very different matter, but the purchase of a certain number of lean cattle annually and fattening them for market. In this way the value of the hay, straw, fodder, roots and corn is returned in the shape of beef, and there is the extra profit of large quantities of manure besides.

Extravagant as the statement appears, Mr. Platt said that one such turf as he described was, in his opinion, when turned under, equal to one hundred and sixty tons of first class barn-yard manure.

But where hay for market purposes is a more valuable commodity than when used for dairy purposes, or in the feeding of cattle, the exhaustion of the soil must be taken into account. That soil must be kept rich, either by manure drawn from other sources, or by the use of commercial fertilizers.— The question then to be considered is whether the extra cost of these is fully made up by the extra price obtained for the hay in market over what its value might be estimated at when fed on the farm.

But the principal point to which we desire to call

attention in the remarks of Mr. Platt, is to the length of time he keeps his meadows in grass, and the great advantage he derives from allowing them to form a heavy sod, which, when turned under after the lapse of years, will enrich the soil fourfold.

We believe that the great error of our system of husbandry lies in the comparatively small value we put upon green crops as fertilizers. All experience admonishes us that hoed crops, such as corn and tobacco, exhaust the soil very rapidly. Nor do they accomplish this merely by what they take from the soil. There is a further exhaustion constantly going on by the exposure of the naked soil to our burning suns and washing rains. Lands laid bare to these influences, even if no crops were taken from them, speedily lose their fertility. Much of what is now desert in Egypt was once fertile soil, and so careful were the rulers of the country two thousand or more years ago to keep up the fertility that they irrigated the soil by a vast network of canals, and so long as these works were kept up the land was covered with verdure. As they became neglected the soil became an arid waste. In Algiers, wherever an artesian well has been sunk in the desert a green oasis has speedily sprung up about it. With us nature proceeds to renovate worn out lands in her own slow but certain way.

She commences to cover exhausted fields with pine or black jack or other small timber, and as soon as these shade the ground with their foliage the process of exhaustion is stopped, and the process of renovation is commenced. As they thicken into forest they attract clouds and moisture, and the annual rainfall becomes heavier, and thus with masses of roots below and a constant accumulation of decaying leaves above, a new soil gradually forms, and from generation to generation the process of renovation goes on.

Is there no lesson to be taught us by this? Do we not know that the natural condition of the soil is to be covered? This covering is essential to its fertility, for where it is stripped of it we invariably find barrenness.

It may be urged that our climate will not allow of lands being kept year after year in grass; that drought kills the grasses, and thus frequent renewal is necessary. In some soils this is doubtless true; in others it is not. The late Mr. Downing showed how a lawn could be kept perpetually green—green even in the dryest weather. "Trench the soil," he said—"make it very rich, and you need fear no drought." Now this must be done with permanent meadows. They must be ploughed deep and made rich. As soon as the grasses are established they will shade the soil and check evaporation, and with each succeeding year the underlying grasses will be dropping their leaves, and thus furnishing in their own decay fresh food to the roots beneath. Add to this an annual top-dressing of manure, equivalent to the constituents drawn from the soil by the crop, and who can doubt the result?

Drilling Wheat.

The season approaching for seeding down to wheat, we could urge the benefit of drilling in the seed with a machine, instead of broadcast sowing. Nothing in agricultural practice, now-a-days, may be said to be better established than this, as every one knows who has ever tried it; and the reports last season in the Department at Washington, from all sections of the country, showed the grain in bushels per acre to be in some sections 20 and 25 per cent. with the drilled wheat. It is found to be much less liable to be thrown out by frosts or winter killed, and the free action of the atmosphere through the drills in the field, the uniform depth at which it is covered, causing an evenness in the growth, together with at least one peck less seed being required for sowing, are all advantages which belong to drilling, connected also with securing a better taking of the grass seed.

Drills, as with other farm machinery, have greatly improved the last few years, and are now constructed not only to sow wheat, oats, rye, &c., in given quantities, but also to sow with it, grass seed and fertilizers in the rows, with the grain; so that the soil, being previously well prepared, the whole is finished at one operation, and the ground left in nice, smooth condition. The ridges left by the drill are leveled down by the frosts of winter, giving additional protection to the tender roots of the grain and grass.— *Practical Farmer.*

A Good Wash.—The following improvement in the common whitewash no one will fail to adopt when once tried:

Take a clean water tight barrel, or other suitable cask, and put into it a half bushel of lime. Slack it by pouring water over it, boiling hot, and in sufficient quantity to cover it five inches deep, and stir it briskly until thoroughly slacked. When slacking has been effective, dissolve in water and add two pounds of sulphate of zinc, and one of common salt. These will cause the wash to harden, and prevent cracking, which gives an unseemly appearance to the work.

If desirable, a beautiful cream color may be communicated to the above wash by adding three pounds of yellow ochre; or a good pearl or lead color, by the addition of lamp, vine or ivory black. For fawn color add four pounds of umber, Turkish or American, (the latter is the cheapest,) one pound of Indian red and one pound of common lampblack.

A man's own experience is the best.

FARM IMPLEMENTS AND MACHINERY.

This is the age of machinery. Into all branches of human industry, however subtle or however coarse, machinery is thrusting its Briarean hands—from the enormous trip hammer, with its force so nicely adjusted that it can be brought down with a blow equal to the strength of fifty giants, or so gently as scarcely to crack the shell of a walnut, to the sewing machine that is capable of doing the work of the delicatest fingers—all is changed from what it was less than fifty years ago. In every mechanical pursuit improved devices have economized labor, and scarcely less has this become apparent of late years in all matters relating to agriculture.—The reaper no longer grasps his grain by the handful to cut it with the crooked sickle. The scythe has yielded in the grain field to the cradle, and the cradle to the mowing machine. Improved rakes drawn by horse power have largely superseded the hand rake. The flail has given place to the threshing machine, straw cutters of every imaginable device to the lumbering old fashioned affair that once went by that name, whilst fans in combination with threshing machines separate the grain from the straw, clean it thoroughly of wild seeds and put it into bags ready for market. We have apple parers, and sausage cutters and stuffers and household looms and patent churns, and even machines for milking cows. The poetry of farming is vanishing, and every department of rural industry is taking a practical and prosaic form. It is one of the necessities of the epoch in which we live that every thing shall be driven at railroad speed, and that in all we do we shall condense into a few minutes what it formerly required hours to accomplish. Nature alone follows the ancient laws. The seasons cannot be hurried or anticipated—except under glass—but pursue with unvarying regularity the same unvarying round. With man and man's works it is altogether different. Whatever his new needs may be new inventions rise up to meet to them. Machinery now does at small cost the work of myriads of hands, and thus cheapens production and adds to the comfort of the population.

That man in farming is behind the age who does not avail himself, to the utmost of his means, of the labor saving machinery which the ingenuity of inventors has placed at his command. To do that by sheer force of manual labor which can be done by machinery so much cheaper, and so much better, is to waste money and expend strength uselessly. It is to work at a loss while others more quick-sighted are working at a profit. It is to reject the good gifts of human skill, and to go plodding along in the old time-honored, but now almost obsolete, fashion. A man might just as well prefer to stick to the old Conestoga wagon in carrying his produce to market when a railway passes close to his door, as to cling persistently to the old hand implement industry in preference to inventions that utilize and economize human labor.

We hold it to be self-evident that he who uses the best tools will do the best work ; will do it quicker also, and will save himself much vexation of spirit, much time otherwise wasted, much expenditure of muscle, and, in the end, no small amount of money.

High farming will pay even with us ; that has been demonstrated. Mr. Mechi, in England, has shown how the most intractable soil may be made to produce immense crops, and in spite of the great outlay required to bring it under subjection, will return annually large profits. Mr. Smith, of Lois Weedon, has also practically demonstrated that land deeply ploughed and subsoiled, or trenched by hand when labor is cheap, will produce forty bushels of wheat to the acre when seeded in alternate strips; one strip in crop and one in fallow. Coming down to the present time, there has been produced in Texas this season "a brag acre" of cotton, which credible witnesses testify will certainly yield five bales to the acre, and perhaps seven—the usual product of an acre being one bale.

But the great want of our country is in trustworthy field hands. Those who were once held to service and labor throughout Maryland and her sister Southern States are no longer to be depended on. The tendency of this class, as indeed it is of many of the white population also, is towards the large cities. These are filling up at the expense of the rural districts, and the day appears now far distant when the supply of field labor will be found adequate to the demand. It is the great and ever pressing trouble of the farmer. Immigration may do something to relieve him, and in the course of years, when the new States of the West no longer offer to settlers the attractions of a virgin soil and a growing neighborhood, it is quite possible that the inflowing wave of population from abroad will spread over the older States, and slowly but surely restore, to perhaps more than their original fertility, those soils which under long cultivation have become partially exhausted.

In the meantime, however, what can our farmers do? That is the question. They need help in the busy season, and that help is not to be had except at a cost in wages which absorbs the greater portion of the profit of the crops. The best means open to him is to reduce the area of cultivation within the limit of his capacity to manage well, to bring that portion of his land into a condition of the highest fertility, and to supplement the smaller force of field hands he will thus require with such implements and machinery as will in the one case expedite labor, and in the other supersede it for certain purposes almost entirely.

Our Agricultural Calendar.

Farm Work for September.

With the present month the farmers enter again into the active operations which precede and accompany fall seeding. Everything that is now to be done requires constant, steady, unvarying application, and a nice employment of means to ends. It is not so much what a farmer would wish to do that ought to govern him in pitching his crops, as what in his thoughtful judgment he can do well. Too much hurry, too large a desire to extend the area of cultivation and too little manure and a deficient force to accomplish the ends sought to be attained, are all, in fact drawbacks to success that ought to be regarded. It is far preferable to limit the crops to those lands that can be well manured and thoroughly cultivated, and to such generally as are fertile already. Compression and condensation is what is needed; not extension, for by this means force is husbanded and the product per acre increased. It is useless to overwork land. It will not pay to do so even at the present prices. Under such circumstances what little may be gained in profit is more than lost by exhaustion. It is much better to keep down such lands in grass as there is not force enough to cultivate, for the mere covering and shading of it will improve it, and when these lands in turn come to be manured they feel and respond to the benefit of the application.

A word here about lime. It is not a fertilizer properly so called, but a good liming of every field lies at the base of good husbandry. Lime is a constituent of almost every plant that grows. It is more than this, however. It renders the phosphates in the soil soluble, converts the humus into plant food and acts chemically as an ameliorator of the soil in various ways.

The work for the month is as follows:

Cultivation of Wheat.

As to Soil.—The best soil for the growth of wheat is a clay loam with a dry but not hard sub-soil. To perfect the growth of the stem and grain, such a soil should contain all the constituents that enter into the composition of the wheat plant, both whilst it is young and when it is matured. An analysis of the grain and straw shows that these constituents are as follows:

	Grain of Wheat.	*Straw of Wheat.*
Potash,	2.25	0.20
Soda,	2.40	0.50
Lime,	0.96	2.40
Magnesia,	0.90	0.32
Alumina,	0.26	0.90
Sulphuric Acid,	0.50	0.37
Silica,	4.00	23.70
Phosphoric Acid,	0.40	1.70
Chlorine,	0.10	30
	11.47 lbs. Ash.	35.18 lbs. Ash.

The above amount of ash was from 100 lbs. of dry straw and wheat respectively, and the analysis shows that the principal constituents of wheat are potash, soda, lime, bone phosphate and silica. Where any of these are wanting in the soil, the crop will be deficient. It is for this reason that one of the best preparations for a crop of wheat is a clover lay; the roots and stem of a heavy crop of clover furnishing an abundance of these very constituents which the wheat requires.

If domestic composts, or composts mixed with commercial fertilizers are needed to give additional fertility to the soil, either of the following formulas will be found of service—the proportions being for one acre:

1st. 250 lbs. phosphatic guano, to be ploughed lightly under before seeding.

2nd. 6 two-horse loads of stable manure, 1 bushel of salt, 10 bushels of ashes, 5 bushels of crushed bones, ploughed in.

3d. 10 two-horse loads of marsh mud or woods' earth; 150 pounds of phosphatic guano; 5 bushels of wood ashes; 1 bushel of plaster; mix in a heap and let it stand two weeks, then shovel over and cart out.

4th. 150 pounds of phosphatic guano; 10 bushels of wood ashes; 1 bushel of plaster; 1 bushel of salt; mix and plough under.

Ploughing and Seeding.—The depth of ploughing for wheat should not be less on good soils than eight inches, and the best depth for seeding the grain is from one to two inches—shallower seeding preventing the coronal roots from starting freely, and thus assisting the production of seminal roots, whilst deeper seeding than two inches tends to retard the germination of the grain.

Broadcasted or Drilled Wheat.—Decidedly the best mode of seeding is that of the drill. The wheat is put in more evenly, and the fine ridges between the drills crumble down during the winter, and thus assist to protect as well as to feed the roots of the young plant. To sum up—

The soil best adapted to wheat is a clay laom.

Best preparation for wheat—a clover lay.

Best kind of seed—that which is clean, plump and heavy, and which has been matured on a poorer soil or in a more northern latitude.

Depth of seeding—not more than two inches.

Method of seeding.—The drill is to be preferred for reasons already stated.

Time of Seeding.—From the middle of September to the first week of October.

Quantity of Seed per Acre.—Drilled, five pecks; broadcasted, not less than two bushels.

Seeding Rye.

Ample directions for the cultivation of rye was given in the last number of the *Farmer*. Briefly

recapitulated, we may state that the soil should be light, inclining to sand rather than clay, that careful preparation will add largely to the produce at harvest, and that whilst no soil is so rich—even alluvial bottoms—that rye will not flourish vigorously upon it, the poorer soils where barley would fail will bring good crops of rye. Finally, rye to do well, ought to be seeded during the last week of August, or not later than the first ten days of September. The quantity of seed required for an acre may be set down at six pecks.

Cleansing Granaries.

We know of no better methods than those recommended many years ago by Judge Carmichael and often reproduced in these columns. For the benefit of those who know nothing of these processes, we give them again.

First process. Place powdered brimstone in an earthen pan—form a bed of sand upon the floor and place the pan on it,—fire the brimstone and close tightly all the doors and windows. After this fumigation there will very rarely be found any weevil to trouble the grain.

Second process. Sweep first the ceiling and sides of the granary, and lastly the floor—rake up the dust and dirt and carry it out carefully and burn it. Next, wash all the interior of the granary with strong ley, and when this is dry, finish by giving the whole a good coat of white wash.

Measurement of Corn in the Crib.

After levelling the corn, multiply the length and breadth of the house together, and the product by the depth, which will give the cubic feet of the bulk of corn; then divide this last product by twelve, and the quotient will be the number of barrels of shelled corn contained in the house or crib. If there be a remainder after the division, it will be so many twelfths of a barrel of shelled corn over.

Example.

12 feet long
11 feet broad

132
6 feet deep.

12)792 cubic feet

66 barrels of shelled corn
5 bushels in a barrel

330 bushels of shelled corn.

Memoranda.—21,500 cubic inches will contain ten bushels of shelled corn, but the same space filled with corn in the ear will shell out rather more than five bushels. These 21,500 cubic inches contain 12 cubic feet, and 764 cubic inches over. Now, two barrels, or ten bushels in the ear, will generally, in shelling, overrun just about these 764 cubic inches.

Garden Work for September.

The principal work to be done in the Garden during this month is as follows:

Spinach.—Wherever spinach is well advanced, thin it out for autumn use, and keep the ground loose about the plants with a hoe. For a fresh supply to come in early in the spring, make the soil very rich with well-rotted manure, spade it in deeply, rake thoroughly, and then lay off the drills nine inches apart and half an inch deep. Sow the seed very thinly along the drills at any time from the first to the middle of the month. At the approach of winter cover all over with a thin layer of straw or cedar brush. The prickly, or fall spinach, is the best. When the leaves of the plants are about an inch broad, thin the young plants out so that they may stand four inches apart in the drill.

Lettuce.—Set out plants that are large enough from the seed bed. For winter use the seed may be sowen during the early part of the month, either in the open air or in cold frames. If seeded in the open air the plants should be protected through the winter in the manner recommended for spinach. The best soil for lettuce is a rich sandy loam.

Radish Seed.—Radish seed, of the turnip-rooted variety, may still be seeded from the first to the tenth of the month.

Endive.—Set out endive plants—the curled green is the hardiest variety—make the rows fourteen inches apart, and the distance between the plants twelve inches. As the plants advance in growth, keep the soil loose and clean, and draw a little earth to their stems. A rich mellow soil and an open situation is the best for endive.

Celery.—Earth up celery on dry days. Avoid covering the hearts of the plants, and water liberally after sunset.

Turnips.—Thin and hoe these to six or eight inches apart, and keep the soil loose and free of weeds.

Cabbages.—As near as possible to the middle of the month prepare, by thoroughly manuring and deep-spading, a bed for the reception of cabbage seed; rake it well; divide it off into compartments and sow separately in each division the seed of the Early York, Battersea and Curled Savoy varieties. Sow moderately thick, and, after raking the bed evenly, beat it down lightly with the back of the spade. If the weather proves dry, water freely. Towards the close of October the plants will be ready to set out.

Sowing Cauliflower Seed.—Between the 10th and 20th of the month prepare a bed as recommended for cabbage seed, and treat the cauliflower plants in a similar manner. In the course of four or five weeks the young plants will be ready to transfer to cold

frames, where they are to remain through the winter. Shelter them in very cold weather, giving them air on milder days, and watering occasionally.

Siberian Kale.—Prepare by heavy manuring and deep spading a piece of ground for Siberian kale. A sandy loam is best, but any loamy soil made rich will answer. Sow the seed thinly broadcast; harrow lightly and cross-harrow, and follow with the roller, or else beat down the soil, not too heavily about the seed, with the back of a spade. Sow between the first and the 10th of the month.

Gathering Autumn Seeds.—As the seeds to be preserved for future use ripen, gather them, and, after putting them on cloths to dry, stow them carefully away in paper bags properly labelled.

Planting out Herbs.—Towards the close of the month set out, during moist weather, all sorts of pot and medicinal herbs.

THICK vs. THIN SOWING.

BALTIMORE Co., MD., Aug. 13, 1869.

To the Editors of the Maryland Farmer:

I am a reader of your valuable magazine, monthly, and it is to be regretted that every farmer in my county is not a subscriber. My object in writing these few lines is to give you my experience in thick and thin seeding, as there is considerable diversity of opinion on the subject among farmers. Your Howard county correspondent makes inquiry on a subject of great importance. I have been farming about twenty years, and experimented frequently on thick and thin seeding. I am of the opinion that too thick seeding is a great evil as well as a calamity. Where wheat is seeded too thick, weak and sickly stalks are produced, causing wheat to deteriorate if sown and resown. Thin seeding will make a larger head, yielding more per acre, making a plump grain and stooling better than when thickly sown. Any good soil will answer for wheat, but some soils are better adapted for producing a heavy yield. Wheat should be sown with the drill, with five pecks to the acre, good plump seed. Broadcast sowing should be rejected for many reasons; it requires more seed, more subject to winter killing, planting the seed irregular, &c. Broadcast sowing requires from six to seven pecks to the acre, to equal five pecks sown with the drill. BALTIMORE COUNTY.

In connection with this subject we subjoin the following article from the pen of that eminent English agriculturist, Alderman Mechi, of Tiptree Hall, who favors thin sowing after thorough experiments:

Thick or Thin Sowing.

Fifteen years of experience are worth something, or at all events ought to be of some value. Does the quantity of seed sown regulate the quantity of corn to be produced? Most decidedly not. As a general rule, the larger quantity of seed sown produces the smallest result, because it implies a poor or ill-cultivated soil, having no power to compel the plant to tiller. It would be absurd to lay down an arbitrary rule of quantity for all sorts and climates; but we may take these general rules as a safe guide:

That the quantity of seed must be diminished in proportion as the natural or artificial fertility of the soil is increased.

That in such soils the sowing of too much seed produces a rank and close vegetation, prematurely developed, laid early, apt to be mildewed, and ruinously unproductive in quality and quantity.

The extreme illustration of this is afforded by the bunches grown from masses of seed dropped from the drill, or accumulated by mice.

That time is gained, or early harvesting is promoted by two causes—a highly manured, drained and fertile soil, or by a large quantity of seed. In the latter case prematurity is attained at a sacrifice of quantity. If I were asked, whether I would sow thick to produce an early harvest, or whether I would sow thin and earlier to produce the same result, I would most decidedly prefer the latter mode.

Experience has taught many farmers that if they will continue to sow the same quantity of seed as they used to do when they farmed less highly, they must sow later to avoid a prematurely laid crop.

If every farmer had tried (as I have done) for a series of years, on a moderate space, the comparative results of given quantities sown at stated periods, each man would have arrived at a suitable quantity adapted to his own climate, soil and circumstances.

My frequent intercourse with farmers from every county and every clime enables me to appreciate the enormous errors and discrepancies in regard to quantity of seed sown; and also convinces me of the want of uniform action and profitable knowledge amongst British agriculturists on this subject.

Several of my wheat fields this year are estimated at six to seven quarters per acre. I need hardly say that the straw is like reeds, and abundant in quantity. This is from a bushel of seed drilled per acre. Now, when some of my Welsh or foreign friends see this, they naturally suppose I have sown as much seed as they do, and wonder that my crop stands so stiff under such heavy ears. They seem quite amazed that one bushel of wheat or two bushels of oats should produce such results as six quarters of wheat and eleven quarters of oats per English acre.

I ought to be equally surprised when I hear of their sowing three bushels of wheat, and four to seven bushels of oats, to produce miserable results of two and a half to three quarters of wheat and five or six quarters of oats.

I have said that high manuring renders a small quantity of seed absolutely necessary. I ought to

add, that every weed should be extirpated, and the whole of the soil placed at the sole use of the growing crop. But how stands the fact on the majority of farms in this kingdom? A fierce competition goes on between the thickly sown grain crop and a powerful natural crop of hungry weeds, the latter too often consuming that which ought to have been the nutriment of the former, thereby reducing it in quantity and quality, to the serious injury of the farmer. This is no highly colored picture. If I travel by the flying train in the month of May, I can, even so, perceive this blot upon English farming in every direction; a painful remainder of agricultural neglect and miscalculation.

The effect of extra manuring on the proportion of seed was strikingly exemplified in a distant wheat field of mine, sloping towards my bed-room. On one portion of that field, forming a square and then an oblong, my sheep had been folded twelve hours longer than on the rest of the field. In every stage of the growth of the corn that extra folding was shown as distinctly as if colored on a map. The crop was thicker and more early laid, and more frothy at harvest. Strictly speaking, three pecks, instead of one bushel, of seed would have been the proper quantity for that portion. I am still of opinion that land can never be too rich for wheat, provided the quantity sown is adapted to the circumstances of the field.

I have formerly stated that on my land I have found that two bushels of seed wheat, as compared with one bushel, reduce the yield by a sum equal to the rent of the land.

Mr. Hewitt Davis is entitled to great credit for what he did practically in proving the advantages of thin sowing, combined with deep and clean cultivation.

In dealing with such an enormous area as the cereal crop of the United Kingdom, the waste of seed forms an aggregate item of national importance.

I never found any farmer who complained of my not having straw enough; on the contrary, thick sowers have admitted that the quantity was much larger than their own.

On light chalky soil, or limestone rock, especially at high elevations, as in Gloucestershire, I have known thick and early sowing practised, because by covering the ground early it protected the roots from frost. We know quite well that, whilst the wheat suffers little from frost, the plant when root-frozen is destroyed. Under such circumstances it might be advantageous to thin out the wheat by hoeing in the spring. In light loose sands the wheat root is apt to suffer unless sown early.

Some thin sowing experiments of mine were recorded in the Royal Agricultural Society's Journal. Those experiments have been confirmed by years experience. I assume that everybody drills or dibbles —there is no dependence on broadcasting.

TIME OF HARVESTING FARM CROPS AND GARDEN SEEDS.

There appears to exist a singular difference of opinion in regard to the proper time to harvest the cereals, grasses, etc. I give you my views and experience on the subject. We will commence, if you please, with garden seeds:

No. 1. The Brassica, or cabbage class, bean, pea and turnip are sufficiently ripe when the pods assume a greenish yellow color.

No. 2. Radish, pods, dark splotches on a rusty white ground.

No. 3. Beet and celery, color of seed light brown.

No. 4. Parsnip and carrot, yellowish green seed tops or capsules.

No. 5. Lettuce, leaves on the stalks dead and seed capsules in full flower..

No. 6. Onion and leek, when the seed is easily compressed by the thumb and finger and the milky substance does not exude.

No. 7. Tomato and pepper (red and yellow,) when they assume either color.

No. 8. Watermelons are ripe when they emit a cracking sound by pressure; and the cantelope, when the fruit emits a sweet odor and rind greenish yellow striped.

No. 9. Potatoes—majority of the leaves dark brown, branches dark yellow and drooping, or when the fibrous roots leave the tubers.

No. 10. Onions are ripe when the ends of the tops turn yellow and droop, which generally occurs about the 25th of July.

No. 11. Cereals (except corn) as remarked per No. 6.

No. 12. Indian corn is "dead ripe" and too ripe when the thumb nail will not enter the grain by tolerable pressure.

No. 13. Tobacco, when greenish yellow spots appear on the leaves.

No. 14. Cotton harvesting is commenced when the bolls have begun to expand, and the cotton is protruded.

No. 15. Grasses (except timothy) ought to be cut when in flower.

No. 16. Timothy, for hay, between the milk and dough state; for course hay and seed, as per No. 6.

No. 17. Red clover, when two-thirds of the flower wear a rusty, yellowish brown color.

No. 18. Annual and biennial weeds (to exterminate) ought to be cut when in or previous to flowering.

No. 19. Perrennial weeds, as per No. 18, or the roots dug or plowed out, cross-harrowed and the roots removed. Set the land in hoed crops or small grain, followed by clover or mixed grasses.

Corn and other cereals if harvested 10 or 15 days previous to becoming what is termed dead ripe, will produce more flour, less bran, and the fodder infinitely more valuable.

A. T. H. F.

Baltimore Co., Md.

FRAUDS IN FERTILIZERS.

To the Editors of the Maryland Farmer:

The article under the above heading, which appeared in your August number, deserves a careful attention, especially from farmers who are most likely to be victimized by worthless manures. And yet, the query will arise, how are farmers and the public to be protected? A little reflection will prove that this is no easy matter. In the first place, many States have already appointed "Inspectors" of guano and other fertilizers; but what does this fact amount to? In many instances these so called "Inspectors" are ignorant of the very first principles of chemistry, to say nothing of their utter inability to make a reliable analysis of a phosphatic manure.

Every thorough chemist will assert that the complete analysis of a super-phosphate is one of the most complicated and difficult operations known to modern chemistry, and not until a chemist has had an extended experience in this special branch of research, is his report worth anything. Notwithstanding this fact, we see inspectors appointed who publish results of analysis of fertilizers entirely at variance, not only with the facts of the case, but with the laws of chemical combination, and which to the eye of an expert present only a mass of nonsense. Allow me to mention a case in point, and I will do this without giving the names either of the chemists or the super-phosphate under examination.

In the circular of one of the oldest houses in the trade, is published an analysis of one of these officials, dated ——— Georgia, February 13, 1869, which reads as follows:—

Moisture, expelled at 212°,		5.05
Soluble Phosphoric Acid,		9 06
Equal to Phosphate Lime,	19.78	
Common Phosphoric Acid,		16.03
Equal to Bone Phosphate,	34.99	
Total Phosphates,	54.77	
Lime with Phosphoric Acid,		29.68
Sand,		00.00
Sulphate of Lime and other Salts not estimated,		40.18
		100.00

This remarkable analysis is not only signed by the "*Inspector*," but is also countersigned by an "*assistant chemist.*"

Let any real chemist critically examine the above figures and he will detect, at a glance, a wonderful *ignis fatuus*. Observe that the phosphoric acid is tabulated as being 9.06 per cent. soluble, and 16.03 per cent. insoluble, and that the lime *combined with phosphoric acid* is stated to be 29.68 per cent., or in the proportion of ordinary, insoluble, tribusic phosphate of lime—just in the form in which it occurred in the raw material of which the super-phosphate was manufactured. In addition to this, we have reported 40.18 per cent. of "*sulphate of lime and other salts not estimated.*" Now, every tyro in chemistry knows that in manufacturing a *super-phosphate* from an ordinary phosphatic guano, in order to produce any *soluble phosphoric acid*, sulphuric acid is added, for the purpose of taking away lime from the tribusic phosphate of lime, thus liberating soluble phosphoric acid. But by the analysis of the "*Inspector*" in question, he credits the phosphoric acid with all the lime it was originally combined with, and reports, in addition, a large amount of "*sulphate of lime and other salts.*" To the unprofessional reader this may not appear clear, but to the eye of a chemist it reads as nonsense of the worst kind. According to the "analysis" there can be no soluble phosphoric acid. Why? Because it shows the phosphoric acid to be combined with three equivalents of lime, which is the composition of ordinary bone-phosphate. The query then suggests itself—where does the 40.18 per cent. of sulphate of lime come from? Is it added as an adulteration in the form of ordinary plaster? The analysis of the "*Inspector*" seems to indicate this to be the case, but the writer knows the article to be a valuable super-phosphate, in which the sulphate of lime is produced by the abstraction by sulphuric acid of a portion of the lime originally held by phosphoric acid, thus forming the sulphate of lime, which is a large constituent of every super-phosphate. But when sulphuric acid thus abstracts lime, no analysis can show all the lime originally in the raw material to be still in combination with the phosphoric acid which formerly held it, or if it does, the party who makes the analysis is ignorant of the first principles of chemistry.

Another remarkable circumstance is to be noted in the above analysis. The "*Inspector*" reports the sand, or silica, to be 00.00 per cent.! Any chemist knows that it is a moral impossibility for a manure containing phosphates to be without silica, unless *pure alkaline phosphates* are used. The super-phosphate in question the writer has pretty good reasons for stating, is made from a mixture of Navassa Guano and South Carolina Phosphate. The former contains on an average *at least* two and a half per cent. of silica, while the latter holds eleven to seventeen per cent., and yet this model "*Inspector*" reports it as *nil!*

Now, what is to be gathered from this rubbish? In the first place, an educated chemist will see at a glance, that the analyst, to use a mild term, "does not comprehend the situation," and if capable of making a rediculous report in this instance, why not in all others in which his opinion may be sought? It happens in this case, that the fertilizer thus reported on is a reliable and uniform super-phosphate, although utterly devoid of ammonia, which the writer considers indispensable in a first

class manure. But its real composition is by no means equal to that indicated in the analysis. If the analyst errs on one side, is he not just as likely to err on the other to the great detriment of the manufacturer? And if so, is he a reliable guide for the farmer to follow?

If thoroughly reliable and capable inspectors of fertilizers be desired in order to protect farmers from imposition, let *first class* chemists be selected, and let their compensation be such as to command the best talent. It is high time that played-out apothecaries and patientless physicians be laid on the shelf, and that trained, experienced and educated analytical chemists be appointed to the task. Were this done, manufacturers of really honest manures would have no reason to complain, but would be perfectly satisfied with the results.

But, to allude to another branch of the subject: may not a really valuable fertilizer be abused by bad farming, and charged with being worthless when other causes operate to effect a failure of crops? The best super-phosphates in the world may repeatedly fail on heavy, undrained, half-tilled soil. And yet, how many farms do we see where a stiff clay soil is merely scratched on the surface, then manured, and expected to produce a luxuriant growth! Undrained, barely marked with a plough, but half weeded, and yet planted with seed and sprinkled with manure, is it a wonder that such land often fails to grow remunerative crops? The wonder really is that it should produce anything at all.

Again—how few of our farmers pay attention to the exceedingly important subject of raising and planting *good seed*. Many of them indiscriminately sow grain as they would use it for stock or sale, without carefully selecting the best for seed. Common sense should teach the absurdity of this step, and yet we find it persisted in on all sides. Can you not give your readers some hints on this branch of the subject? It is one of vital importance, and should receive thorough treatment.

AGRICOLA.

Newcastle Co., Del., August 16, 1869.

Navy Beans.

PETERSBURG, VA., August 2d, 1869.

To the Editors of the Maryland Farmer:

Will you please inform me when is the best time to gather Navy Beans, and how to prevent them from moulding or spotting after gathering, and what is the general yield per acre? You will confer a favor by replying through the *Farmer* as soon as practicable. H. C. S.

We would refer H. C. S. to the February No. of the *Farmer* for 1869, pages 43 and 56, for the information desired. He will find in the two articles all the information asked for.

SPURRY---Spurgula Arvensis.

To the Editors of the Maryland Farmer:

On looking over an article on Green Manuring and Manures, found on page 303 of Agricultural Report for 1864, published by Commissioner of Agriculture for the United States, I found an article on Spurry, (Spurgula Arvensis,) which says that "Spurry is most admirably adapted to sandy soils, and that Van Voght, of Germany, says it is better than red or white clover, the cows give more and better milk when fed on it, and it improves the land in an extraordinary degree. The blessing of Spurry, the clover of sandy lands, is incredible when rightly employed. It forms a very early as well as a very late pasturage, and succeeds best upon sandy soils, but will grow vigorously upon other soils, *provided they are not too rich*." Those last six words induced me to invest in Spurry, for I thought I had here in North Carolina some acres of sandy soil that were not any too rich. So I sent to Thorburn, of New York city, for Spurry, the price per pound, and how many pounds or bushels per acre. Thorburn replied that as for bushels he did not suppose I could find a bushel of Spurry seed in New York, but he could sell me a few pounds at 40 cts. a pound, and about 25 pounds per acre would be the quantity to sow. So I invested to the extent of four dollars, and bought 10 pounds of Spurry and sowed it on about one-half an acre, and this wonderful plant grew, but such a growth, a low, spingling, good for nothing plant that no four-footed beast or feathered fowl will touch. Cows trample it and pass it by; sheep smell and leave it; horses snort at it and pass on. It soon goes to seed—a mass of the minutest black seed. I have seed enough for a hundred acres, and at forty cents per pound it would be a paying crop. If after what I have written anybody is anxious to invest in Spurry, by sending to Thorburn they can doubtless get a few pounds more of the same sort, but judging from my experience the Agricultural Commissioner at Washington had better save the people's money than invest it in writing articles to induce farmers to purchase a worse than worthless seed called Spurry.

EDWARD L. FIELD,
Greensboro', N. C.

THE CASTOR BEAN AND THE COTTON PLANT.—A Beaumont correspondent of the Jasper Newsboy says one stalk of the castor bean came up last year among the cotton of Dr. W. H. Baldwin, of that neighborhood, and that, although the worms destroyed nearly his whole crop, there was no sign of the worm within a hundred yards of the castor bean plant. A neighbor of his planted the bean in his cotton fields to poison moles, and his cotton suffered no damage from worms. This year Dr. Baldwin has planted the bean in every thirtieth row of his cotton. These facts corroborate many similar statements, some of which we have published.—*Galveston News.*

DAVID DICKSON ON IMMIGRATION.

SPARTA, Ga., June 10, 1869.

Editors Southern Cultivator:—I wish to draw the attention of the cotton planters of the South to the subject of immigration. It is one of great interest, and if successful, I think will prove destructive to the cotton interest. I do not wish my views to prevail unless they are right. I wish both sides to be heard, and hope those who can wield the pen, and who agree with me, will be heard; the other side has been heard already, and we have been taxed to promote this cause. The State of Georgia is moving for our destruction.

The negro we have with us, and we cannot get rid of him if we would. They will not die out, as most of our Northern friends and many of our people think. The next census will show a large increase. The only way to make it tolerable for them to live amongst us is to give them employment. With full employment they will steal less, be more law-abiding, and a less nuisance in every way. Do we want more labor, and for what? The agricultural interest at the South is chiefly valuable for its production of cotton, tobacco and rice. Can we make more money by doubling the quantity of labor than we can out of what we now have? Do numbers increase the quantity of labor *pro rata*, or will the dividends be greater for all concerned? Can the first million of people in Georgia, having the first choice of lands to cultivate and the balance for pasture, make more or less than the second million, having the poorest half to cultivate, and no waste land for stock to graze on? Is the second million likely to be more skillful, law-abiding and enterprising, &c., &c.? I think history teaches us that a population, with a plenty of room and land, are more cheaply governed than a dense population—can live better and can have more labor to spare for improvements. What country has built the same amount of railroads and factories as the United States? The United States, having plenty of lands to cultivate, by selecting the best, can, with one-half of its laborers, make a plenty of all the products of the soil, whilst the other half can build railroads and machinery of all kinds, and work them. The cotton States, with its present labor, can build more railroads, erect more factories, develope more mines, carry education and refinement to a higher point than if the population was increased four-fould. With cotton at twenty-five cents per pound, you have money to do whatever you wish collectively. In 1848 and '49, with 900,000 to 1,000,000 bales of cotton in Liverpool, cotton sold in Augusta at from 4½ to 5½ cents. With 350,000 to 400,000 bales at present in Liverpool, cotton is selling in Augusta from 25 to 29 cents per pound. Why do you wish to make the change? Our Northern friends say, if we do not produce cotton cheaper, we will lose the trade. I am willing to lose it, if it can only be held by making cheap cotton. If they would take a little more interest in preventing the loss of our liberty, instead of the loss of the cotton trade, it would inure to the benefit of both sections. Give us our liberties and constitutional rights, with our best men to represent us in all our departments, and we can make as much cotton as the world wants, at fair prices, if it be ten millions of bales, without an outside man or dollar. Good government would do more to develope this country than all the men and money in the world.

Cotton planters, it is not to your interest to sell your land at a mere nominal price. How can you invest your money to any better advantage? Land must advance in price. In thirty years, without a single immigrant, Georgia will have a population of two millions of people—the sons and daughters of the present population. Be patient—wait for the natural increase, and what may voluntarily come. Do not spend your money to hasten an over-populated country. It will come soon enough, and when it does come you will have no outlet. Some are willing to cut their lands up into small lots, and give every alternate lot to immigrants, thinking it will more than double the price of the balance. What do you care what your lands are worth, if you have none to sell—besides, it would reduce the price of cotton more than one-half, and the land you have left would not pay, per acre, one-half of the dividends they do now—reducing your profits three-fourths. You have a plenty of native poor people to sell land to, if you wish to part with any.

Do those who have no land wish competitors in labor, and in the land market—reducing your wages one-half or more? Do you wish a great increase of money capital, reducing the rate of interest to the standard of Europe, causing all property to rise in proportion to the fall of interest. Your wages are fixed by the surplus of cotton you have to export and the price it will bring in Liverpool. Your prosperity depends upon the scarcity of labor and a high rate of interest. You have nothing but your honor—you cannot borrow money, even if it gets down to two per cent. The value of your labor being fixed by the value of cotton in Liverpool, where interest is low, you can, by residing where it is high, acquire proportionally, much more land in a given time.

To those who have land to sell, or more than can be worked, let me say the very scarcity of labor will make one-half of your lands bring in annually more money than if all was planted—the other half is worth five per cent. to grow broom sedge for grazing, and will advance more than five per cent. an-

nually. For the safety of the manufacturing interest, especially in cotton, it is not prudent to push it too fast—not faster than markets can be found for the products manufactured. Just as sure as the winds return the water, to be condensed and fall again above the shoals, the people here will possess the money and energy and skill to put the water to work; and to effect this most speedily we want a scarcity of cotton, and correspondingly good prices.

With cotton at twenty to twenty-five cents per pound, we can in Georgia appropriate ten dollars towards increasing our manufacturing interest with more ease than one dollar, with double the labor, and cotton eight to twelve cents. Where are the laborers best fed and clothed? Where labor is scarce. Where does land pay the best profits? Where labor is scarce; and the reason is, the products of the farm bring the best prices under these circumstances.

I am equally opposed to begging for money to be brought to the South to be invested. If capitalists come of their own accord, let them come; but it is not to our interest that they should. You now own the property of Georgia—if you sell one-half of it, you will own but the other half. It is very difficult to transfer real property from one country to another. The most you would get would be the means to live and dress fine for a few years.

What we want is a system of saving and property investing each year. We could and ought to save annually fifteen millions of dollars, to be invested in machinery. That would pay future dividends, to be re-invested. I am for more labor too, but I want such as we may never regret acquiring. Accumulate all sorts of labor-saving machines; improve your land to a capacity double its present rates; improve your systems fully double of what they now are. Learn to do fully fifty per cent. more work, with the same labor that is now done, and with more ease; learn to apply your labor to greater advantage than is now done—do all this, and more too, which can be done, and you will find your products ample, without any increase of population. Leave the subject of immigration to time and the free will of those who wish to come among us and be of us.

We owe our prosperity at this time entirely to the scarcity of labor—many negroes having refused to work; others being employed in repairing torn up railroads and building new roads. If all the negroes had gone to work on the farms, and done full work, it would have taken twenty years to reach our present situation. The scarcity of labor is the only blessing we now enjoy as a result of the war.

The scarcity of labor in the South gives us the proceeds of the very labor some people wish to transfer here. The profits of one hand in the cotton field give us the labor of two in Europe. Transfer him here and he will compete with the labor we now have, or he will labor with those we now have to lessen their profits and bring about a state of things which will get up strikes. You must recollect, a strike in the cotton or harvest field is not like one in a cotton mill or on a railroad. If the mill stops, what has been done is not lost—if the hands refuse to move any dirt, what has been, remains. Not so with wheat and cotton—all is lost, unless you continue to advance. The guano must be pumped up into the cotton bolls, and they must be gathered by uninterrupted labor.

One more point I will mention, and then leave the subject to be discussed fully, I hope, by abler pens. The press of the South has labored earnestly to get the cotton planter to make all his supplies at home, urging it as being the cheapest policy. Now every cotton planter knows that nothing pays as well as cotton, and all the presses in the world cannot change his opinion. But if the press will strike at the root of the evil they may do incalculable good. I will state what it is; I have alwaye practiced it; both the true interest of the cotton planter and patriotism should make all adopt it. Apply one half of all labor and land to the making of full supplies of all kinds that are needed on the plantation, and enough to spare for those engaged in other pursuits. Do this, and you will get more money (take ten years together) for the other half of labor and land engaged in cotton culture, than if the whole was employed to produce cotton. If this is true, immigration is certainly not to our interest, and why should not the cotton planters consult their interest as well as other people.

Very respectfully, DAVID DICKSON.

PICKLING SEED WHEAT.—A correspondent in the *Canada Farmer*, writing on the subject of wheat growing, offers the following:—"An important operation in the process of wheat sowing is too often neglected—I allude to the picking of seed. First, it points out to us the bad grains which may thus be removed, reducing the percentage of lost seed; and secondly, it strikes the root of smut and other fungi; for it is these very imperfectly formed grains that are chiefly attacked by such parasites. Now smut is found in the imperfect grains, and in such small quantities (as botanists tell us) that it is absorbed in the root of the young plant, bursting out a short time after the earing, throws upon it fungi, in the dark, rusty form with which we are but too familiar. If we simply steep our wheat in water, the light grains which, though too light to be blown out by the fanning mill, are imperfect, will rise to the surface, and may be removed. If to this water we add lime, we shall kill all traces of smut, &c., which may have clung to the otherwise sound seed by contagion with the imperfect grains. But let us remember, above all, that the most certain prescription for the securing of good crops, is a change of seed; get your seed from a different variety of soil,"

To Ascertain the Weight of Live Cattle

First, see that the animal stands square, then, with a string, take his circumference just behind the shoulder-blade, and measure the feet and inches—this is the girth. Then measure from the bone of the tail which plumbs the line with the hinder part of the buttock, and direct the string along the back of the forepart of the shoulder-blade, and this will be the length. Then work the figures thus: Suppose girth of bullock 6 feet 4 inches, length 5 feet 3 inches, which multiplied together makes 33 square superficial feet; and these multiplied by 23—the number of pounds allowed for each superficial foot of cattle measuring less than seven and more than five feet in girth—makes 759 pounds. When the animal measures less than nine and more than seven feet in girth, 31 is the number of pounds to be estimated for each superficial foot. And suppose a small animal to measure 2 feet in girth and 2 feet in length, these multiplied together make 4 feet, which, multiplied by eleven—the number of pounds allowed for each square foot when cattle measure less than 3 feet in girth—make 44 pounds. Again, suppose a calf or sheep, &c., to measure 4 feet 6 inches in girth, and 3 feet 9 inches in length, that multiplied together, makes 16 square feet, and these multiplied by 16, the number of pounds allowed for cattle measuring less than 5 and more than 3 feet in girth, make 256 pounds. The dimensions in girth and length of the back of cattle, sheep, calves and hogs, taken this way, are as exact as is at all necessary for computation or valuation of stock, and, will answer to the four quarters of the animal, sinking the offal. A deduction must be made for animals half fat, of one pound in twenty from those that are fat; and for a cow that has had calves, one pound must be allowed, in addition to the one for not being fat, upon every twenty.

To Make Good Vinegar.—Take ten gallons of apple juice fresh from the press, and suffer it to ferment fully, which may be in about two weeks, or sooner if the weather is warm; then add eight gallons like juice, new, for producing a second fermentation; in two weeks more add another like new quantity, for producing a third fermentation. This third fermentation is material. Now stop the bung-hole with an empty bottle, with the neck downwards, and expose it to the sun for some time. When the vinegar is come, draw off one-half into a vinegar cask, and set it in a cool place above ground, for use when clear. With the other half in the first cask, proceed to make more vinegar in the same way. Thus one cask is to make in, the other to use from. When making the vinegar, let there be a moderate degree of heat, and free access of external air.

How to Use Muck.

A correspondent wrote to the New York Farmer's Club to inquire if it would pay to dig and haul muck half a mile to the barn-yard, there compost it with stable manure, and transfer it thence "to a poor sandy, ten acre field, within twenty rods of place from which the muck was taken, or would it be more advantageous to cart it to the field directly from the swamp?"

Mr. Ely replied: "My experience and pennyworth of observation commend the practice of leaving muck exposed to the cold of winter. It is, I think, much better and more available as a composting material after having passed the freezing and thawing which such exposure insures." Mr. Williams said: "During a late visit to the farm of our excellent friend, Dr. Hexamer, I learned that his custom is to mix muck and manure fresh in equal proportions, and let the compost remain for several months. The tillers of the soil at Milford, Conn., draw muck in summer and fall and compost with fresh manure at once. Of course, it is best not to have the muck too wet." Mr. Lyman, agricultural editor of the *Hearth and Home*, said: "In talking with farmers about the benefit they get from muck, I have only in one case seen positively fine results from the use of it when spread fresh from the swamps. One field I was shown where the crops were conspicuously better for years for a dressing of one hundred loads per acre from a swamp close by, but this was not muck exactly, but leaf mould. Another farmer, as good as any in Connecticut—many would say the best—hauls his muck three miles, and mixes it with the droppings of his farm animals every day, summer and winter. Thus his pile is trebled; for a bushel of yard-droppings mixed with two bushels of dry swamp muck, and allowed to stand some months, will be found as valuable a fertilizer as three bushels of yard-droppings. They mutually aid each other. The most useful and the most subtle parts of yard-manure fly away and vanish in the air unless fixed by some chemical art. The sourness of swamp muck has the power of fixing this volatile part of excrements, at the same time the sourness is removed. Hence, I would advise Mr. Brown to haul his manure a mile; two—yes, three miles for composting it, rather than apply it raw. He will find his account in so doing, for the free use of muck in his yard, about his drains, his roost and his sty, will kill all noisome smells, and remove what is frequently a nest for slow and lingering diseases."

Dr. Holland says fruit trees in Switzerland are entirely exempt from the ravages of insects, and accounts for the fact by the great abundance of sparrows.

TO IMPROVE SANDY SOILS.

There is a very erroneous but strong impression on some minds, that light, loose sands are valueless of purposes of cultivation. In their natural state, it is true, they are not very productive; a few crops of rye or buckwheat reduces their fertility, and so much manure is thenceforth requisite to reinvigorate and keep them in heart that they are either turned out to pasture, or abandoned in despair. I have had some experience in the cultivation of this species of soil, and my success has induced me to attach to them a much higher degree of importance than is usually accorded. And I am fully persuaded that even the lightest and most sterile sands may, by proper management, and without any ruinous outlay of expense, either in time or capital, be made highly and permanently productive; in short, that our poorest plains land can be redeemed from this unjust imputation of utter worthlessness, and made to yield not only remunerating crops, but crops equaling in abundance and richness those afforded by the most affluent soils upon which labor has every yet been bestowed.

In the first place, in order to the successful amelioration of sandy soils, it will be necessary completely and thoroughly to cleanse them from stumps. After this is effected, let them be plowed deeply, with a strong team, in the last of summer, turning in all the wild growth upon them to the depth of at least one foot; then harrow thoroughly and roll with as heavy a roller as you can procure. The next thing is to give the surface a good dressing of clay. This earth will generally be found in the near vicinity of the field to be clayed, either in some neighboring run or water course, or beneath the sand, for sand and clay are never far apart. The The finer it is, and the more *greasy*, the better and more durable will be its action; and the more liberally it is applied, the more thorough will be the improvement consequent upon its application. The best time for applying it is immediately after plowing, and to secure its being refined and broken up, it should be deposited in heaps and spread evenly over the surface, to remain exposed during the winter to the action of the frost. In the spring plow again not so deeply as before, in order not to disturb the sward, harrow and again roll. You can now sow on rye, or plant, and the crop will come off in season to allow you an orpportunity to give another dressing of clay, which in quantity should be equal to the first—say forty cord to the acre—and spread as before.

This will entirely change the texture of the soil, as you will no longer have the barrenness of sand to contend with, but a soil endued with all the essential requisites of permanent and vigorous fertility, and on which manure will act with as much celerity and energy as upon the richest loams. It may be thought that the quantity of clay recommended—eighty cords to the acre—is large, but when we reflect that some cultivators bestow this amount of stable manure, and bear in mind the very important fact that while manure is an article for which money has to be paid, the whole cost of clay is embraced in the carting, the objection arising from the quantity requisite to insure a complete and thorough improvement being large will at once cease to retain its force. If the farmer cannot afford this, he can apply a less quantity at first, and add to it year by year; but in this case he must be contented with a much less lucrative return for his annual labors, as a very large percentage of clay is called for, in order thoroughly to improve the soil, and overcome the many and serious imperfections of sand as it naturally exists. Therefore it is much better and more in accordance with the policy of enlightened economy, to give enough at first to effect the object desired, and enter at once into the profits of the business, than to occupy years with only a limited annual return.

One great reason—and indeed I regard it as the principal one—why manure never acts vigorously on light sands is, that the extreme perosity which characterizes it, causes the dung to keep *dry*, and consequently to remain *inert*. A lump of dry manure is no better in the soil than a chip or a stone, and will produce just the same effect upon the crop. The clay gives cohesiveness to the particles, unites them by a sort of glutinous attachment and consolidation, and while it favors the absorption and retention of moisture, ensures the fermentation and ultimate decomposition of the dung. In a few years the soil will assume a fine dark appearance, resembling garden mould, and the various grasses will find it it a bed capable of affording expansion to their roots, and supply a moisture and soluble food commensurable with their wants.

To every person, therefore, who is the possesor of sandy soil, I would say, *clay it at once!* No soil is so easily worked, and from no soil, when managed in this way, will labor secure to itself a more certain and rich reward.—*Cor. Germantown Telegraph.*

The Value of Swamp Land.—The *Rural New Yorker* says: "The very best success with land that we have ever seen was with low, swampy soil.—Worthless, apparently, only to grow coarse grasses and weeds. It was ditched, plowed, and thoroughly cultivated, and a wealth was developed which made it lasting and productive, almost beyond account. There are many, many such swamps."

A merciful man is merciful to his beasts.

SUPERPHOSPHATES AND THE MAINE LAW.

The Amount of Soluble Phosphate Produced by the Manufacturer.

Analyses of the estimated solubility in water of nearly all the most prominent superphosphates now for sale in Philadelphia, was recently made by one of the most distinguished chemists there. The annexed results exhibit his mode of analysis as the one I devised many years since; but the actual *product* of the manufacturer is so much below what he may reasonably claim as an educt, that I have recently adopted the usual mode of estimating the solubility of these mixtures in pure water by decoction.

Very few learned men are chemists, although Ph. D.,—a much less proportion of chemists are technologists—and not a tithe of these are 'agricultural chemists;' indeed, some who wrote learnedly on these matters criticise the very term that indicates the relation of chemistry to agriculture. Any one may understand the following propositions and see the difficulty, although its removal may require as much time as the unification of coins, weights and measures, the immediate expediency of which is doubtful, however ridiculous the present system and however unanimous the voice of the civilized world in denouncing it. It is manifestly absurd to value a watch-spring by the proportion of iron it contains, and stamp each watch with this valuation. Again, it would be equally absurd to place the degrees of a centigrade thermometer on all our thermometers by an act of the legislatures—or compel every pill-maker to stamp each box with the commercial value of the ingredients thereof. We do not doubt the accuracy of the following analyses. There are five modes of estimating the value of superphosphate of lime as a manure—1st, the proportion of phosphoric acid; 2d, the proportion in actual combination with the lime; 3d, the proportion of all the acids present and capable of forming superphosphate; 4th, the proportion of nascent, neutral phosphate, and 5th, the total amount of sulphuric acid present. A suitable proportion of some other element of plant food, such as ammonia, may insure the adaptation of the fertilizer to a greater variety of soils, and thus double its value; and this may be reduplicated by another element equally important and much less expensive; or, on the other hand, a superphosphate, although free from ammonia, etc., may be worth more than any other—purely on account of the brand of the manufacturer insuring uniformity—also its drilling properties, etc.

There are several points of interest referred to above, which I may at some future time exhibit, as I do this, without the knowledge, consent or advice of any manufacturer or proprietor of fertilizers, in order that "the Maine law" may be digested "with a grain of salt," and not bolted as rapidly as some anticipate.

The following results were, no doubt, obtained by the process referred to, viz: by displacement by cold water of the soluble products of the manufacturer; consequently they are far below what is usually claimed by the manufacturer as available, much less "*creditable*," in proportion to the oil of vitrol actually employed in their manufacture. As all of these are sold at about the same price, say $50 per ton, some protection for the future is clearly indicated:.

	Per cent. Phosphate of Lime
No. 1	3.00
2	4.29
3	8.90
4	1.40
5	9.21
6	0.50
7	6.40
8	2.98
9	9.03
10	2.60
11	4.35
12	7.11

DAVID STEWART, M. D.

PORT PENN, Del., 26th June, 1869.

[*Practical Farmer.*

VETCHES are commonly found in imported wheat. You need not fear its being a noxious weed. It is one of the best forage plants known for green manure, and is commonly grown with oats to keep them from lodging. Vetches will not stand a severe winter, but in warm climates they become troublesome if the fields become well set with them. If this happens, turn your hogs and cattle on them. They are very fond of them and will exterminate them. The varieties are numerous: as the Carolina vetch, American vetch, Tufted vetch, Slender vetch, common vetch and others. They are much alike and grow from two to five feet high. They are sown in the Spring.—*Farm Journal.*

GOVERNORS OF MARYLAND.

The following is a list of the Governors of Maryland, from the period of the Declaration of Independence down to the present time:

1777.	Thomas Johnson.	1822.	Samuel Stevens, Jr.
1779.	Thomas Sim Lee.	1825.	Joseph Kent.
1782.	William Paca.	1828.	Daniel Martin.
1785.	Willaim Smallwood.	1829.	Thomas King Carroll
1788.	John Eager Howard.	1830.	Daniel Martin.
1791.	George Plater.	1831.	George Howard.
1792.	Thomas Sim Lee.	1832.	James Thomas.
1794.	John H. Stone.	1835.	Thomas W. Veazey.
1797.	John Henry.	1838.	William Grason.
1798.	Benjamin Ogle.	1841.	Francis Thomas.
1801.	John Francis Mercer.	1844.	Thomas G. Pratt.
1803.	Robert Bowie.	1847.	Philip F. Thomas.
1806.	Robert Wright.	1851.	Enoch Louis Lowe.
1809.	Edward Loyd.	1854.	Thomas W. Ligon.
1811.	Robert Bowie.	1857.	Thomas H. Hick.
1812.	Levin Winder.	1861.	Alex. W. Bradford.
1815.	Chas. Ridgely, of H.	1865.	Thomas Swann.
1818.	Charles Goldsborough	1867.	Oden Bowie.
1819.	Samuel Sprigg.		

Cultivation of Broom Corn in the South—Interesting to Farmers.

The following letter, addressed to a well-known citizen of Petersburg, contains some valuable suggestions to the farmers of Virginia and North Carolina, relative to the cultivation of broom corn. This is one of the most profitable crops we can raise, and as remuneration is the object of the farmer's labors, we commend the letter to a careful perusal. If it is to the farmers' benefit that they should cultivate one crop in preference to another, let them seek to raise the most profitable, and give their best attention to it. If onions, pea nuts, broom corn, or anything else, will pay better than the old crops of wheat, corn, tobacco, &c., why let them cultivate them. But to the letter, which we would premise by saying that one of the firm is from North Carolina, and the other from Petersburg:

BALTIMORE, May 8, 1869.

Mr. John P. Branch, Petersburg, Va.

Dear Sir—Feeling interested in the prosperity of the South—our recent homes—and having exerted ourselves to encourage the culture of broom corn in southwest and northeast Virginia and North Carolina, we write this, hoping you may induce the farmers of your section to give it some attention.

It is a most profitable crop, easily cultivated, and commands cash on delivery, and often before it reaches market. The farmers of Illinois and Ohio have grown rich from its culture, and there is no reason why Virginia and North Carolina should not find it equally profitable.

It is safe to calculate on $200 to $300 per ton of 2,000 lbs. next fall. Western river bottom lands produce 1,000 to 15,000 lbs. per acre, and it will grow as well in Virginia and North Carolina, on lands of same strength, as in the West and nearer to market.

It is cultivated about same as our sorgum cane in the South, only that it stands thicker in the drills—one or two inches apart—and if the land is quite strong it will bear touching in drills 3½ feet apart.

It should be cut in September, and before ripe, while yet green, with some six inches of stalk to the brush, the seed cleaned off at once, and the brush corn dried, cured in the shade, which renders it green when cured. If cured in the sun, it turns red and is not worth so much as the green corn.

It is baled similar to hay or cotton with wire or rope, only that the brush part is kept inside and the stalk end turned out. An acre should yield some 40 or 50 bushels of seed, which, for stock, are as good as oats, and command about same price in Eastern and Northern markets—60 to 80 cents.

Suppose each farmer in your county planted but one acre, and it yielded him only 800 lbs. clear brush corn at $250 ton—12½ lbs.—$100, and the 40 bushels seed, which, at 50 cents a bushel, would more than pay freight to market on the 800 lbs. broom corn, and the labor of growing and handling, leaving $100 profit to the acre, which would more than purchase his year's supply of sugar and coffee, and enable him to pay the cash for it. Would not this add to the prosperity of your section by increasing its currency. We expect to manufacture, use up, 40 to 50 tons per annum, and a thousand (1,000) tons of broom corn would find sale in our market at good remunerative prices; it is also an article of export.

Yours, very respectfully, &c.,

BRIDGER, HERRING & Co.,

[*Petersburg Weekly Index.*

The Poultry House.

A Woman's Experience in Turkey Raising.

A lady correspondent of the *Western Rural* who has been very successful in raising turkeys, thus details the plan she pursues. She says:

We have been generally successful in our efforts to raise turkeys; usually not losing more than twenty per cent. of the number hatched; half the losses resulting from accidents and minks or weasels.

I prefer hatching the eggs under chicken hens. I think nine eggs to the hen sufficient. The nests should be off the ground. Heavy thunder will kill the unhatched chick if on the ground. The young turkeys must not be exposed to dampness or cold till they are at least three weeks old. They must be kept on a clean, dry floor on rainy or cloudy days, and of mornings till the dew has disappeared.

A custard, composed of milk, egg and crumbs or crusts of bread, I have found the best food. Cheese curd, or sour milk curd can be added after they begin to feather. I would earnestly condemn cornmeal as fit feed till the turkeys are nearly full feathered.

Our turkeys brought one hundred dollars the past year, after deducting express and commission expenses. We do not know what the raising of them cost, but estimate it fifty dollars.

CHICKEN hens lay, on an everage, eighty eggs a year each, for two years. They decline after the second year and should not be kept longer for laying purposes.

One acre would afford sufficient range for 100 hens, and more than that number should not be in one enclosure. A 15 acre lot would require to be divided into fifteen enclosures, and would afford a range for fifteen hundred hens. If Brahmas are kept the division fences need not be more than four and a half feet high if one wing is clipped. The Brahmas would be best for market after having layed two years. One or two divisions should be kept for breeding to supply the places of those sent to market.

It is astonishing, that, at the high prices eggs and poultry have brought in the markets for several years past, that the business has not been sufficiently increased by competition to lower the prices.—Yet the prices seem rather to advance than recede, affording great encouragement for large investments in that line.—*American Stock Journal.*

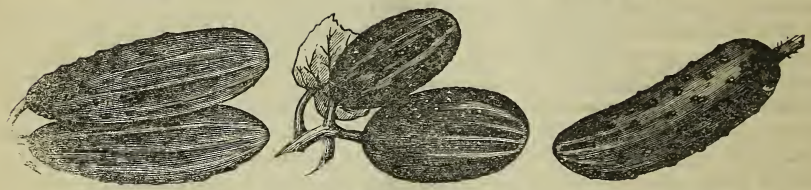
Plenty of lime will very often prevent hens from eating their eggs.

MIXING hen feed with a strong suds of common soft soap is recommended both as a preventive and cure of gapes.

ENGLISH FRAME.

LONG GREEN.

WHITE SPINE.



EARLY CLUSTER. EARLY RUSSIAN. EARLY FRAME.

CUCUMBER.

The hardiest varieties—in fact, all the American or common sorts—will produce a medium and late crop, if the seed is sown in the open ground in well prepared hills, as soon as the soil becomes sufficiently warm. In this latitude it is useless to plant in the open grouud until nearly the first of June.—Make rich hills of well rotted manure, two feet in diameter—a large shovelful of manure, at least, to each hill—and plant a dozen or more seeds, covering half an inch deep. When all danger from insects is over, pull up all but three or four of the strongest plants. The middle of June is early enough to plant for pickling. Make the hills about six feet apart. For early Cucumbers, the hot-bed is necessary; but the simplest and surest way to produce a tolerably early crop of the best kind is, where it is designed to place a hill, dig a hole about eighteen inches deep and three feet across; into this put a barrow of fresh manure, and cover with six inches of earth; in the center of this plant the seed, and cover with a small, box-like frame, on the top of which place a couple of lights of glass. When the plants grow, keep the earth drawn up to the stems. Water, and give air as needed; and if the sun appears too strong, give the glass a coat of whitewash. By the time the plants fill the frame, it will be warm enough to let them out, and the box can be removed; but if it should continue cold, raise the box by setting a block under each corner, and let the plants run under. The fourth of July is the time we always remove the boxes or frames.—Always pick the fruit as soon as large enough, as allowing any to remain to ripen injures the fruiting of the vine. One pound of seed is sufficient for an acre.—*Vick's Illustrated Catalogue.*

The Peruvian Guano Deposits.—A Lima correspondent of the New York *Herald* says the guano of the Guanape Islands, which the Peruvian Government is now sending to market, is found to be so strongly impregnated with ammonia, as to cut proceeds downward, as to render it nearly equal to the usual run of the Chincha guano. The extent of the deposits is estimated at four millions of tons. Along the southern coast the deposits are also very great and of a superior quality, but lying on the main land, the cost of shipping would be increased, hence it has been determined to exhaust the island first. Government has issued a decree allowing only such quantities of Chincha Island guano to be exported as may be necessary to cover the interest of the debts contracted by Peru in England and in the United States, all other cargoes to other ports to be of the Guanape Guano. Chinchas, is now jubilant at the unexpected richness of Guanape, and the President is more confident than ever of being able to cary his multifarious railway schemes into execution.

Soap Suds to Grass Lands.—Mr. Samuel Johnson, the Superintendent of the Farm at the State Agricultural College, informs the editor of the *Maine Farmer*, that he found an application of soap suds to grass lands, gave more than double the increase of growth than was produced by any toher fertilizer whatever. Every particle of soap suds is saved, and applied at intervals upon grass ground. What a source is here for the saving of fertilizing matter, which now so generally goes to waste.

ARTIFICIAL MANURES.

From a lecture recently delivered by Professor Voelcker on "Adulteration of Feed-Stuffs and Artificial Manures," we extract the following mode of detecting pure Peruvian Guano from the adulterated kinds :—

I must now hasten on to the second division of my subject—the adulteration of artificial manures. If the loss which the former sustains by buying inferior feeding materials is to be lamented, the loss which he incurs by the use of adulterated manures is much more to be deplored, because the injury done by the application of adulterated or inferior manures is not at once perceptible, and many a man goes on for a long time without being aware of the real cause of the small crop at which he wonders and repines. Therefore am I very anxious to be much more severe on the dealers in adulterated guanos, or very grossly adulterated manures of other kinds. In a certain measure, as our chairman observed, the farmer can protect himself in buying feeding materials, but he has not the same facility of protection in the purchase of artificial manures. You cannot by any inspection recognize whether guano is adulterated or not. I defy even an adept in guano to tell me whether this specimen before me is genuine or otherwise, it is so like the genuine article. Chemical skill is required to effect a detection, but chemical skill can do it. Hence it is that these fraudulent transactions are so much more common and extensive than the dealings in adulterated feeding materials can possible be. There are, however, one or two things which it may be useful for you to remember, inasmuch as they will enable you to detect pure Peruvian guano from the adulterated kinds. The best Peruvian guano always has a lighter specific gravity than adulterated kinds. If you weigh a bushel of the genuine stuff you will find its weight per bushel does not exceed 69 pounds. It is usually from 68 pounds to 69 pounds per bushel; that is to say, a bushel measure filled and struck off. Adulterated guano always weighs more. This surely is a simple way of testing the value of guano. Another equally simple way is to burn a small quantity. If you have the appliances to do it, by careful weight, take 100 grains. Should the guano be genuine it will leave one-third of its weight in ash which is perfectly white; in other words, 66 grains will burn away, and 34 will remain in the form I have stated. If the guano be adulterated it will leave perhaps more than one-half of its weight in ash, and the ash will invariably be colored, since the earthly matters which are usually employed contain oxide of iron, and that compound causes the the ash to be of a brownish or yellow brown color. Genuine Peruvian guano yields—or perhaps I ought to say yielded—from 17 to 19 per cent. of ammonia. At the present time, however, you must be satisfied if you can get 16 per cent. I very much fear the supply of guano will come to an end within no very remote period, for certainly the average cargoes are not so good as they were some eight or ten years ago. This is why I say you must be satisfisd if in the best Government Peruvian guano you can get 16 per cent. of ammonia; whereas, formerly it was by no means uncommon to get 18 and 19 per cent., and I have had samples, indeed, which revealed 20 per cent. The materials that are mixed with guano are gypsum, chalk, and certain yellowish loams which abound in the mouths of the Mersey, Liverpool being one of the chief depots of mixed guanos. Liverpool, indeed, is famous in one respect for the mixing of guanos, in the same way as Hull is famous for the mixing of feeding-cakes; neither of them can be said to enjoy an enviable notoriety.

PLAN OF A CORN CRIB.

I built a corn crib a few years ago, which I think, for convenience, has but few equals. It has never failed to keep corn perfectly, and is likewise ratproof. It can easily be filled without the ordinary way of making doors in the roof, which are so difficult to make tight. The dimensions are as follows:

Length, thirty feet; width, four feet at sills and five feet at plates, with a projection in the middle six feet long across the crib. The main posts are eight feet from top of sills to top of plates. The posts to the projection are six feet and two inches. The sills are four by six, and should be of some durable wood, as they are exposed more to the weather than the rest of the frame. It stands upon seventeen posts, set in the ground two and a half feet, resting on flat stones and twenty inches above ground, fixed in the usual way, with tin milk-pans inverted over them, which should have the wire-rims cut off, as rats sometimes catch by these and ascend.

The plates are three by seven inches; the posts four by six inches. The size of the timber is immaterial; some would not think mine large enough, but it answers all purposes. The roof is of twenty inch cypress shingles, and extends a foot over the eaves. The sides of the crib are of pine lath two inches wide, put on up and down, just wide enough to keep in the smallest ears. The middle part is covered with pine boards, with a door in one side. In filling the crib, loose boards are used to keep the corn in each end, leaving the middle space for shelling the corn and storing the cobs, which we consider are worth saving.— *Cor. Country Gentleman.*

If flour is in fact "wheat ground," why should it not be entered as real estate?

THE
MARYLAND FARMER
AT $1.50 PER ANNUM,
PUBLISHED ON THE 1st OF EACH MONTH,
BY
S. SANDS MILLS & CO.
No. 24 South Calvert Street.
CORNER OF MERCER,
BALTIMORE.

S. SANDS MILLS, E. WHITMAN, } Publishers and Proprietors.

BALTIMORE, SEPTEMBER 1, 1869.

Southdown Bucks.—The attention of those desirous of improving their stock of sheep is called to the advertisement of Gov. Oden Bowie, in another column. These bucks are of the Webb stock, and well known for their superiority.

Absent.—Owing to the continued absence of our Mr. Mills, who is now at the North, several matters are omitted which will appear in our next.

Blood Manures.—For instance, there are a good many kinds of manure sold under the name of blood manures. As a fact, there is very little blood used in the manufacture of manures. Where is all the blood to come from that would make all the manures sold under the name? Some of the manures, nevertheless, are very good—not on account of the blood, but other good things of which they are made. Whilst some refuse materials, as blood, or even woolen refuse, are useful in furnishing nitrogen to the growing plant with sufficient readiness, there are others which do not decompose, and which are only added with the view of deceiving both the consumer and the chemist who advise him.—*Prof. Voelcker's Lecture.*

A FERTILIZER FOR WHEAT---ANSWER TO CORRESPONDENTS.

Correspondents, writing from Essex county, Va., put us the following questions:

1. Can you give us a formula by which we could prepare a *quick, active fertilizer* for the wheat crop at a less expense than we have to pay for phosphates and guano? They ask whether the following mixture, which they are already preparing, will answer the purpose, viz:

5	bushels of	wood ashes,
5	"	ground bones,
1	"	pickle salt,
1	"	plaster,
10	"	rich mould.

This quantity we understand they propose to use each acre. There can be no doubt that it would answer an excellent purpose; but whether it would prove as quick and active as is desired is another matter.

Bones, when ground coarsely, are of slow action in the soil. When ground as fine as flour they are much quicker; but when reduced by the use of dilute sulphuric acid, they act quickest of all.

There are several methods, however, of reaching this result. Bone dust may be rendered active and soluble by mixing it with good manure and allowing the heap to ferment. *This is the cheapest method;* but it requires several weeks to perfect the process, as the fermentation must be thorough. The addition of the manure—say two cart loads to each five bushels of bones—would nevertheless be found of great advantage in furnishing ammonia and other salts at the same time to the soil. But, if the work is to be done rapidly, so as to render the bone dust very soluble, it can be accomplished by putting the bone dust into a hogshead and pouring over it sulphuric acid at the rate of two gallons of sulphuric acid, diluted with six gallons of water, to each bushel of bones. Five bushels of bones would therefore require ten gallons of sulphuric acid and thirty gallons of water.

The best method of doing this is to put the bones in the hogshead and pour over them, the first day, one third of the diluted acid. On the next day pour in another portion, and, finally, on the last day, pour in the remainder. The mass should be frequently stirred. When complete it will form a thick paste and should then be mixed with the ashes, salt, plaster and mould, which our friends propose to use.

Whether this process will make a cheaper compound than the commercial phosphates will depend upon the price at which the ground bones has been obtained. That it will make an admirable fertilizer there can be no doubt.

2. The second question is, whether such an application will produce, subsequently, heavy crops of clover and timothy?

Our answer is, if the land is to be kept for any length of time in grass we should use at least fifteen bushels of wood ashes instead of five.

3. "Is it better to put lime on the wheat after seeding, or to plow it in, and in what quantity?"

We should pursue neither method. The best plan of all is to put the lime on the corn ground and work it thoroughly through the soil in the process of cultivating that crop; but, if it is to be put on with wheat, we should broadcast it at the rate of fifty bushels to the acre after the land is plowed, and thoroughly harrow it in; we would then seed the wheat and cross-harrow, lay off the water furrows, bush in the grass seed, and finish by passing the roller over the field.—*Eds. Farmer.*

Thick and Thin Seeding.

Milwaukee, Wis., Aug. 23d, 1869.

To the Editors of the Maryland Farmer:

In your August number, "Howard County" asks regarding thick and thin sowing for wheat; also, the advantage of drilling over broadcast seeding.—In 1864, I tried seeding from 1 bushel to 2½ bushels of seed to the acre. (The soil was light loam—spring sown.) I found the thick sown ripened from 7 to 9 days before the thin sown. It came up very thick, but the heads were short and the kernel not so plump. I got the largest yield per acre on that sown 7 pecks to the acre. The grain was all weighed for measurement. As near as I can remember, 1½ bushels seeding yielded the plumpest berry. I also put in part of it with a "Buckeye Drill" and a part with a "Broadcast Seeding Machine. The broadcast sown was on three years the oldest ground, or longest under cultivation. Both were stacked separate, and the yield was, drilled wheat, 13½ bushels to the acre; broadcast, 16 bushels per acre—calling 60 pounds a bushel, the grade of our No. 1. It is generally conceded by our farmers that machine sowing will yield from 2 to 3 bushels per acre more than when sown by hand—the same quantity of seed being sown. Yours,

"Badger."

To Destroy Thistles.—A Canada farmer gives his experience in destroying the thistle that so much abounds in the Dominion, in this wise: After the land was well saturated with moisture, I put some women to draw them by hand, defending the hand with stout gloves, with a piece of old sacking sewed over the palm, to prevent the plant from slipping when the gloves become wet. With a very little care, the thistle may be drawn with six or eight inches of the root; and I was rid of the nuisance in two seasons, which had for many previous years bid defiance to repeated mowings and cuttings under the surface with a spud.

FRAUDS IN FERTILIZERS.

Clarksville, Md. August 23d, 1869.

To the Editors of the Maryland Farmer:

Allow me to commend your article on "Frauds in Fertilizers," in August number. I think it goes over all the ground and cannot fail to produce excellent result in the discussion of the subject. It is a question which indicates two courses of action—private and State—and that I may not occupy too much space, I will briefly state my views of both, believing that if my suggestions could be complied with, we should hear no more of farmers being deceived by frauds in fertilizers. First, private action. Let the farmers in each county meet together, by organization, and select *one of their number* to act as their agent in the purchase of fertilizers, requiring heavy bonds of him for the faithful discharge of his duty and purchasing their fertilizers only from him. This agent would then be able to make such terms with manufacturers as would secure to his customers *always* a pure article, without extra cost to them, (as they would purchase at manufacturers' prices,) and protect himself against loss by the sale of and adulterated article. By visitation analysis, in fact, constant vigilance, this agent would have no difficulty in fully protecting himself and customers.—In purchasing manures at all times, farmers should *always* reserve a quantity, (several quarts,) from different parts of the purchase which should be sealed and placed carefully away, unused, and if the result of application are not satisfactory, the sample should be analyzed and action taken according thereto. Only a few grains are used in an analysis, but more than enough should be saved as a sample. I should have introduced these remarks by saying, as the first step, buy only of responsible parties, otherwise there is no redress. Second, State action. If every manufacturer who sells his article without the limits of the State was compelled to deposite with the State Commissioner a certain amount of securities for his good faith, with a sample and analysis of his article, it would operate as a preventive of fraud to a certain extent. Without this safeguard we do not see how an analytical label would be a protection, as false samples could be issued and false lables affixed to fraudulent packages.

In regard to sending samples of manures to the Department of Agriculture, it seemed a natural resort to solve a problem, but to all who sent there to enquire for truth, (several samples have been sent,) the answer has been, it is not within the province of the Department to analyze artificial manures for individuals."

It is not often we can complain of Col. Capron's decisions, but in this case we concur with you in your remarks and request a reconsideration of this decision, and suggest the wisdom of giving an im-

partial analysis to see what few names would be sent for the specific purpose of ascertaining their character, by those directly interested or engaged in agriculture. Perhaps the Commissioner feared that manufacturers would make use of the time of the Department, if so the privilege could be modified by certain restrictions to prevent its abuse.

D. L.

COMMERCIAL FERTILIZERS.

The Secretary of the Connecticut Board of Agriculture procured last winter samples of sixteen articles known in commerce as "fertilizers," and submitted them to Professor S. W. Johnson, of Yale College, the well know agricultural chemist, for analyses. They were received, and without names or labels, with the exception of numbers, by which to identify them, were submitted to Professor Johnson, by Mr. Gold, Secretary of the Board. Upon receiving the results of these analyses, the Secretary added to each its name and price, and has published the whole for the benefit of farmers.

The report shows also, how much it would cost to buy, in other forms the materials which give these fertilizers their value. Thus the farmer has before him all the information needed to choose the cheapest materials for his purposes, whether it be a patented or proprietary compound, or a mixture of his own manufacture.

These analyses proved that in every instance most of the substance consisted of water or sand or carbonate or sulphate of lime, or some other material of little value. These materials were mixed with phosphates and nitrogenous matters in very different proportions; but the really valuable component parts are but a small proportion of the whole.—Prof. Johnson reported that there was good reason to suppose that some of the articles sold as fertilizers, and for which high prices were paid, were the products of deliberate fraud; their value to the farmer being in strange contrast with the price at which they are offered and advertised.

The sample which proved the best of all is sold at $56 per ton, and contains actual fertilizing ingredients which it would cost the farmer $47.32 in gold, or more than $60 in currency, to buy separately in any common form. Next to this comes one, the useful parts of a ton of which are reckoned to be worth $32.09 in gold, and which is sold at $65 in currency. On the other hand, a popular article, sold at $28 per ton, is estimated to be really worth as a fertilizer, not more than $2.33 per ton in gold, or but one-ninth of its price; and many other favorite articles of this class seem to deserve their reputation but little better, if the samples obtained by Mr. Gold and tested by Prof. Johnson were fair specimens.

It is not to be supposed that swindling in fertilizers is confined to New England. Indeed, we question whether this business of swindling is carried on to a greater extent in any other State in the Union than in the State of New York.

The above statements point more strongly than ever to the necessity which we have so long and so persistently urged, of some action on the part of our State authorities, for the protection of farmers in the purchase of fertilizers. We trust that the next Legislature will take action upon the subject, and make the penalty for this kind of rascality sufficent to check, if not prevent it.—*N. Y. Exchange.*

Convenient Ash Leach.—I would like to give your readers the plan of a lye leach we are using; it may be something new to most of them, and it will be found cheap and simple:—The box—which is made of inch boards—is about three feet deep, and about three feet square on top; runs down wedge fashion, so that it is but 9 inches wide on the bottom, one way, and three feet the other.

There is a board nailed on the bottom with grooves cut in it to carry off the lye. This box is put into three frames made of 2x4 inch stuff; by this means the box or boards do not have to be nailed, without you choose to nail them to the frame. The first frame is near the top of the box; the second, above the middle; and the third, near the bottom. There is a two inch hole put through the center of the middle frame and box, which lets through a two inch round, which passes through the box, and the ends rest upon two upright posts, either set in the ground, or setting on bed pieces braced—ours is on a frame. When fixed in this way, the leach can be dumped at pleasure.—*Cor. Western Farmer.*

Leesburg, Loudon co., Va., Aug. 4, 1869.

J. J. Turner & Co.—Dear Sir: I believe I have just harvested the best crop of wheat grown in the county. I used Excelsior principally. I did, however, use some of four or five other fertilizers to test their virtues. I consider your Excelsior far superior to all others. On a hundred-acre field, on which I sowed one hundred (100) pounds of Excelsior per acre, I shall make twenty-five bushels of wheat per acre at least—my neighbors say thirty bushels per acre. My corn land (one hundred and forty acres) will yield twenty bushels per acre. I don't want any better fertilizer than your Excelsior.

Very respectfully yours, * E. V. White.

The *Country Gentleman* says it has not yet met the farmer who could make enough manure to obviate the necessity of using clover as a fertilizer. It thinks manure spread on clover sod in the fall is the best preparation of ground for corn the following spring.

SHEEP AND DOGS.

BY D. LAWRENCE.

The following statistics were compiled for general information, and as the subject is receiving general attention, we suggest to the agricultural and commercial press such publication of the facts as will best subserve the end in view. The figures are mostly from returns anterior to 1860, and are rendered more striking from the rapid development since then of the manufacturing capacity of Southern as well as Northern industry :

There is one subject in regard to which the enlightened agricultural element of the country exhibits no difference of opinion—the profitable character of sheep husbandry (to a greater or less degree North, South, East and West,) and its great commercial and domestic importance. From the days of our colonial existence, when the provincial authorities offered the stimulus of bounties to the tender plant of domestic wool manufacture, until its gigantic proportions shelter a vast multitude engaged in the art, the progress has been rapid and remarkable, and a few statistics of this growth are necessary to enable us to accomplish the object for which this article was designed. In 1820, the value of woolen products (in this country) was but four and a half millions of dollars. In 1830, it had increased to nearly $15,000,000. In 1840, nearly 1,500 establishments, representing a capital of over $15,000,000, produced more than $20,000,000. In 1850, nearly 1,600 establishments, with a capital of $28,000,000, produced over $43,000,000. In 1860, nearly 2,000 establishments, with a capital exceeding $35,000,000, produced nearly $70,000,000 worth of goods. Now to the question of the home supply for this great demand. In 1840, the United States wool product was 36,000,000 pounds ; importation same year 15,000,000 pounds. In 1850, United States product 53,000,000 pounds ; importation 19,000,000 pounds. In 1860, United States product 61,000,000 pounds ; importation 35,000,000 pounds.

The value of the woolen goods imported into this country for a period of forty-five (45) years amounts to nearly $780,000,000. The importation of wool from 1841 to 1866 (25) years amounts in pounds to more than 730,000,000, and in value to nearly $100,000,000, making the aggregate value of wool and woolen importation nearly $900,000,000. "While the imports of woolens have been more than doubled, and those of unmanufactured wool have increased in a still greater ratio, showing a heavy demand unsupplied by our wool growers, the increase of the wool crop has been but 15 per cent., not even keeping pace with the increase of population, which was 35 per cent. for the same period."

"We use 80,000,000 pounds of wool in our home manufacture, 40,000,000 in foreign goods—making 120 000,000—about 4 pounds per annum to each individual. It is estimated that our domestic manufactures swell this average to four and a half pounds, or 140,000,000 pounds of wool, requiring nearly 60,000,000 sheep, instead of less than 25,000,000, the present number (1860.)"

From the above figures it will be seen there is a vast difference between the wool product and consumption of the country, and this deficiency is attracting the serious attention of those anxious to remove every obstacle to the increase of the home product. With favorable climate, soil, breeds and markets, there is no reason why the product of this staple should not only equal our consumption, but take its place by the side of the large number of productions which occupy prominent positions among the exportation of the country. Whilst laws have been enacted for the purpose of protecting the home plant against the supposed encroachments of the foreign interest, a domestic evil, serious in its nature, destructive in its ravages and entirely within the control of the legislative influence, has been permitted to exercise its baneful power upon this extensive branch of the national industry, free from the systematic checks which the importance of the vast interests involved demands. We allude to the depredations of dogs among the flocks. In all parts of the country these depredations have confronted the flock master, and from all parts the cry of distress goes up to the authorities. Some of the States have attempted to remove the evil, but have only partially succeeded on account of defective systems. In regard to the extent of these outrages, we have very incomplete statistics, but are able to furnish from the Records of the Department of Agriculture a few facts from different sections to show that the evil and complaint are universal, and that an effective law to remove the evil would be beneficial in its operation throughout the country.

An Arkansas correspondent writes :

"If we can prevail on Congress to put a tax of $2 on each dog it will enable the South to raise sheep enough to feed themselves and pay their portion of the national debt. It seems hard that a portion of our people should be allowed to hold a lot of filthy dogs to prey upon the industry of the country. You will do us incalculable good if you will use your endeavors to get a law to tax all dogs."

From Tennessee :

"Sheep can be raised here profitably, and numerous attempts have been made to increase the product, but it seems utterly impossible under existing circumstances ; the dogs outnumber the sheep two to one. Every family has from one to three dogs—curs of mean and low degree. Our legislature has been appealed to again and again without any good results."

Another complaint :

"Our sheep are gradually disappearing, due to worthless curs."

From another State :

"The raising of sheep here is impracticable, from the fact that nearly every family keeps a lot of half starved curs, whose hunting qualities consist in being able to destroy a flock of sheep in about twenty minutes."

In speaking of the loss of sheep by rot, another writer "attributes it in great measure to the confinement of sheep in close quarters on account of dogs."

To show the general opinion of agriculturists upon this subject, as well as one of its ramifications, we quote from a writer on "The Wheat Plant :"

"What is the remedy against the evil-rust? The Roman sacrificed a red bitch on the altar of the goddess Rubigo, the priest entreating her to withhold her rusting hands. If the farmers could be persuaded to sacrifice all bitches to the goddess an altar ought to be erected to her on every farm for the indirect benefit to the wheat crop by increased sheep-

husbandry; it would more than compensate all losses from the rust."

The loss in Ohio in 1858 was $190,661 in sheep killed, and nearly $40,000 in injuries by dogs.—Nearly $15000 *in one year, in one State*, of direct loss! Who can estimate the remainder of the loss?

From another writer on the condition and prospects of sheep we make the following extract:

"The losses by dogs are surprising, an influence in withdrawing capital from wool-growing, and are exciting attention among farmers and agricultural periodicals, causing discussion in legislative halls and eliciting practical acumen and legal lore in drafting dog-laws. Laws should be passed to insure practically the extermination of worthless curs. At present it is a race between sheep and dogs, with a fair prospect, in Rhode Island at least, that the dogs will exterminate the sheep. Some of the States have legislated upon the subject and some good has resulted, but the cure is not radical. If some red republican should arise, with decapitation for his war-cry and the guillotine for his instrument, and rule for awhile as dictator of our sheep-walks long enough to show the results of his dynasty, no whining poodle would ever be able again to pull the wool over the eyes of commisserating farmers.

"It is to be hoped that a stringent law, such as will be practical and efficient, will speedily be enacted and enforced."

In Ohio, in 1846, there were over 800,000 sheep. In 1856 there were only 505 000—a decrease of 300,000—due entirely to the ravages of dogs and consequent discouragement. Over 200,000 were killed and more than 125,000 were injured by dogs in that State in five years—1858—1862.

Thirty-five States (with reports from over 500 counties) report losses of sheep by dogs; and this direct loss for a single year—1866—(500,000 killed and 300,000 injured) is estimated at $2,600,000.—Take the years from 1840 to 1880—forty years—and, should this evil remain unchecked, the *direct* loss could not fall far from $45,000,000. Another serious phase of the abundance of dogs is the alarming increase of that terrible disease, hydrophobia. The frequent accounts in the public journals of the ravages of this disorder alone, should call forth efforts to prevent its effects by the destruction of the cause, to the extent of expediency.

"The cost of keeping dogs, most of them utterly worthless, when calculated for the whole couutry, assumes startling proportions. As to their number, it is believed they will average one to each family, or 7,000,000 in the United States; and from all the data obtained it may be assumed as a low estimate that there are 5,000,000, and that their subsistence, at less than one cent per meal, involves an annual expenditure of $50,000,000.

"In the vicinity of cities sheep have been almost exterminated. The South is acknowledged to be especially adapted to wool productions, and the business would rapidly increase there but for the interference of dogs. In Somerville, Tenn., sheep have decreased one-half since February. Fully one-half are killed by dogs and the other half are eaten up. Sheep-raising in Beaufort, N. C., would be profitable were it not for the dogs. In Pontotoc county, Miss., the annual loss is 900 sheep. In St. Francis county, Mo., fifteen per cent. of the flocks are destroyed by dogs. In Wayne county, N. C., the United States forces nearly exterminated the dogs, and, as a consequence, sheep have suffered very little from their depredation. In one county in Kentucky (Boone) 3,000 sheep were killed by dogs in 1866."

We might continue in this strain, but enough has been furnished to indicate the absolute necessity of some means to root out this cancer of a great industry; for these figures, large as they appear, represent but a portion of the actual damage. In all sections these outrages amount to a partial, and in some, to a total prohibition of wool-raising.—This would effect something more than a diversion of capital; it creates a waste of resources. There are farms scattered over all the country, and in some parts vast sections, especially adapted to sheep-raising, which must remain ungrazed, and producing an abundance of winter food which must remain unconsumed. It has been ascertained that sheep will eat a much greater variety of plants than any other domestic animal. They will live and thrive summer and winter where other farm animals would starve to death. They clean out from fence corners, stone hills, and tree rows in summer, (to manufacture food for man,) vegetable matter that would otherwise fall under a bush-scythe and feed a fire-pile, or decay where it grew, to leave the land worse than if it had been cropped by sheep. In winter, whilst they repay care and attention, in some parts of the country they require little or none of either, and in others they may be fed upon material which now go to waste—like the rag-weed that grows so luxuriantly on Southern stubble-fields.

If, desiring to discuss this question impartially, we seek rational objections to the tax law demanded where shall we find them? What interest could stimulate opposition to this law and bring to its support an array of such figures, counted by hundreds of millions, as we presented in the beginning of this article? What class or clique in the dog interest could counter-balance the sheep interest, that mighty finger of the ponderous agricultural arm?

We hold that such a law will be a great advantage to every true lover or raiser of the dog proper, always the friend of man; among all animals nearest his heart, when his great natural ability have been led through the channel of culture to the proper arena for the display of his friendship, his usefulness and his fidelity.

We know that he has saved precious human life from the grave of waters and drifting snows when the human arm was powerless; that he has acted as agent in trade and barter, surprising as well as gratifying his master by his remarkable intelligence and unfaltering devotion; that he has watched, tired but vigilant, by tent and camp fire to keep from him whom intense fatigue had driven to slumber the fierce assaults of the beasts of the field, or the fierce attacks of a human foe; that he has followed him by sea and land as his faithful and useful companion, mourned for him in absence and sickness, and faithful in death, has followed his remains to their resting place to die in comfortless despair above the still hand he could no longer touch with his caresses. But how many of the low bred curs that prowl around farmers' back doors would do the least of one of these? Prominent agriculturists of unquestioned ability advocate a tax on scrub bovine stock to effect its improvement, and the dog tax (with say five dollars on females) would operate in the same manner, viz: The extermination of cur stock and the introduction of the noble masters of the race. And why should not this important animal receive the attention which has been be-

stowed upon the breeding of other domestic animals; or rather, why should we not use those which have received this attention?

A proper system of agriculture embraces the improvements which judicious breeding has effected in all farm animals, and any cause having in view the increase of improved animals will be beneficial to the extent of its operation, and to show the value of improvement and culture in dogs, we furnish a statement from a recent essay upon the subject:—"On the large sheep farms of England and Scotland, the service of trained dogs is estimated at $100 each, and is daily worth more than the services of a stout boy. The principal breeds are the Spanish sheep dog, similar to the Alpine or Bernardine Spaniel; the Mexican, probably a descendant of the Spanish; the English drovers dog and the Scotch colley. Of the latter, Buffon says: "he is the true dog of nature, the model of his species; he reigns at the head of his flock and makes himself better understood than the voice of the shepherd.—Safety, order and discipline are the fruits of his vigilance; he conducts them with an admirable intelligence, which is a part and portion of himself, and his sagacity astonishes, while it gives repose to his master."

In the present condition of our national finances, when every dollar is needed from every source, where taxation will be no burden, and when it is necessary to relieve from the burden as soon as possible the large number of interests now suffering under it, we find another argument in favor of the proposed measure. If necessity demands an increase of the public revenue, upon what article could a tax be laid which would be felt less oppressive? If it does not there are interests which would be greatly benefitted by a transfer of burden to the extent of the revenue which might be realized from a dog tax. England derives a large revenue from this source, and an examination of that law would doubtless assist those anxious to frame a judicious and effective law for this country, and to this end we make the following suggestions, as embodying the wishes of those interested in the subjects herein presented:

1st. The levy by Congress of a tax of $2 per annum upon all dogs over one year old.

2d. That the tax on females be $5 each per annum.

3d. That each owner of a dog receive from the collector upon payment of his tax a metallic stamp with a number thereon, which shall represent his dog on the register's list.

4th. That every dog so licensed shall wear a collar with said stamp affixed, and that every unstamped dog shall be outlawed for each offence.

5th. That a penalty of $10 (one-half to the informer) be laid against every person who shall evade the payment of the tax, or one month's imprisonment and loss of dog.

This law would require no additional expense for its execution, but assessors and collectors should be allowed a small percentage on their dog returns, sufficient to insure their persistence in enforcing the law. With the "informer clause," we need not fear its effectiveness. A thousand sharp eyes would be peering around in every county for stray dogs, and with the moral force of the sheep interest thrown in its favor, its greatest enemy would soon cease to disturb its operation.

We know that this petition for relief has been presented again and again. Suffering under a serious grievance, the farmer has knocked mildly at the door of authority, left his request and went home to raise bread for the nation, in peace, and talk over the fetters upon his industry, having no time to spend amid the brawls of a lobby to urge upon the delegates of his power the considertion of a bill for his protection. Too diffident to be troublesome or importunate, he has been contented with submitting to the law givers the decision of club and fair and convention, trusting to the solid foundation of that decision to secure the attention its importance demands; and once more representing thirty-five States and Territories which have recorded their losses upon the books of the Department, we make the same request in the name of that interest whose prosperity is the rampart of a nation, and whose decay the death of empires.

Killing Sorrel.—A correspondent of the *Gardener's Monthly*, writes:—"I have a lot of sorrel in my lawn, and am anxious to get rid of it. I read in an agricultural journal that lime would destroy it, and tried it freely without results."

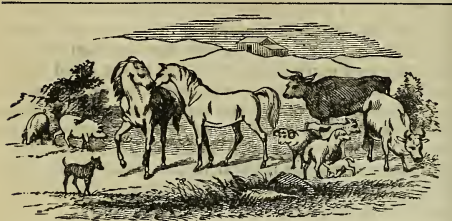
The editor says:—"It is hard to get a lie out of the world after it once gets in. This one of lime killing sorrel we have kicked and cuffed for twenty years, and here he is before us again as cool and fresh as ever. *Lime will not kill sorrel.* As to the lawn, we really do not know how to advise you; but we think as it is rather a strong growing weed, if the lawn be mown regularly every two weeks, it will soon die away; no strong growing weed will live long in a closely mown lawn."

STATE FAIRS FOR 1869.

New York	Elmira	Sept. 14th to 17th.
Ohio	Toledo	Sept. 13th to 17th.
Virginia	Richmond	Nov. 2d to 5th.
Mississippi	Jackson	October 26th.
Am. Pomological Soc.	Philadelphia	Sept. 15th to 18th.
Iowa	Keokuk	Sept. 14th to 17th.
Kansas	Lawrence	Sept. 7th to 12th.
Maryland	Baltimore	Oct. 26th to 29th.
St. Louis Ag. and Mechanical Asso'n,		Oct. 4th to 10th.
Illinois	Decatur	Sept. 27th to Oct. 2d.
Alabama	Montgomery	Sept. 9th to 11th.
Tennessee	Nashville	Nov. 9th to 11th.
Oregon	Salem	Oct. 11th to 16th.
Vermont	Burlington	Sept. 14th to 17th.
Missouri, Horticultural St. Louis		Sept. 8th to 10th.
Connecticut, Poultry, New Haven		Nov. 9th to 11th.
California	Sacramento	Sep. 6th to 10th.
New England	Portland, Me.	Sept. 7th to 11th.
Kentucky	Louisville	Sept. 3d to 7th.
Michigan	Jackson	Sept. 21th to 24th.
New Jersey	Elizabeth	Sept. 21st to 24th.
Indiana	Indianapolis	Sept. 27th to Oct. 2d.
Nebraska	Nebraska City	Sept. 28th to Oct 1.
Minnesota	Rochester	Sept. 28th to Oct. 1st.
Pennsylvania	Harrisburg	Sept. 28th to Oct. 1st.
Wisconsin	Madison	Sept. 21st to 24th.
New Hampshire	Manchester	Sept. 28th to Oct. 1st.
Arkansas	Little Rock	Oct. 19th to 22d.

Wooden Drains.—There are drains at the Insane Asylum, at Utica, N. Y., which have been down thirty years, and which are made of boards, two nailed together at one edge, leaving a space of about four inches at the other edges, which are placed on a third board laid in the bottom of the drain. They are laid in a deep clay soil, at the depth of three and one-half feet.

Live Stock Register.



WHAT IS A GOOD COW?

What we need is a good cow that can eat and digest a deal of food, and can then convert it into milk, not into meat or fat. It is by careful attention to and development of some points, that the good milker is at last obtained. What are these points?

1. Health, good constitution or digestive apparatus, for which we require a capacious belly.

2. That the largest possible development of the animal shall be behind, in udder and parts adjacent.

A good cow is likely to be wedge shaped, of which the head is the smaller end.

Big heads, or horns, or shoulders are not to be desired, because they have to be nourished by the food. But these are indispensable; a large bag, and hind quarters to support and minister to it.—How have they been attained, and how can they be further perfected? By always breeding from the cow having this development and from the bull descended from such a mother. More and more these perfections will increase as they descend from mother to child, until at last the greatest possible milk producer is reached, if indeed, it be not already.—Possibly an individual cow may have reached the limit in this direction; but what we need now is the certainty that every calf will grow to be such a cow. We want, not that one, but that every cow shall give thirty quarts in summer and twenty in winter, then we will agree to stop awhile. Observe, both parents should have good health, and both should have these posterier developments. By using due care, these properties will become so fixed as to be continued with certainty to their descendants.

So little attention has been given to this matter in this country, that our great milk raisers say:—"We know nothing of breeds; we prefer the native cow." And what is the "native cow?" As early as 1608, it is supposed, cattle were brought from England into Virginia; in 1624 into New England; in 1625 into New York from Holland; in 1627 into the Delaware county from Sweden; in 1831 into New Hampshire, etc., etc. All these, coming from various sources, have been mingled in every possible way, and are known here as "natives." They have no distinctive peculiarities which they transmit, but in many cases care and climate and good food have produced from them excellent cows, and the "red oxen" of Connecticut are not easily equaled. The vast majority of our cows are of this kind, and are poor; and from these the milk raisers are obliged to select.

The first appearance, to a judge, will convey an impression as to the health or constitution of a cow. He will ask, also a bony frame, one that does not steal the fat from the milk; he will feel the skin, to find it flexible and covered with close, softish hair; he will ask for good lung room, capacious belly, a wide rump and a well developed bag covered with soft hair. Extending from this bag forward, he will be desirous to see prominent the two great veins which lose themselves in the belly; and on the back of the udder he will look for many well defined branching veins. Then comes Guenon's "milk mirror," which is a broad strip of hair running up from the udder to the vulva, which he considers one thing needful; but which has not, in this country, been found an infallible test, though it is a good one. If, in addition, the cow is gentle and good tempered, you are almost sure of a milk maker. Look for that kind.—"*The Milk Makers,*" *in April Galaxy.*

A Few Words About Horses.

Hay and oats make the best feed for horses that are obliged to work hard and regularly. If the hay is cut fine and the oats bruised or ground, the whole mixed and moistened, the horse will eat his rations quicker, digest them sooner, and thus have more time for resting and renewing his power for labor. Farmers' horses that work little during winter time may be kept cheaper by cutting and mixing bright straw and hay in equal quantities, and adding a ration of steamed potatoes or raw carrots. Colts should be fed liberally on good hay—bright clover is best—and bruised oats; give them a roomy box stall in stormy weather and during nights. Litter freely and do not let the manure accumulate under them. Sawdust or spent tan makes good and convenient bedding; in cities and villages they are often cheaper than straw. Groom horses well and let them have exercise every day; a run in the yard is excellent. See that stable floors over basements are sound and strong. Arrange the feeding racks so that dust and hay seed will not fall into horses manes or eyes; some horsemen build their mangers too high, thus forcing the animal to take an unnatural and painful position when eating.—Farm horses that are not worked should have their shoes taken off, and those that are driven on the road should be kept well shod.—*Am. Stock Jour.*

Scratches in Horses.—A correspondent in the *Germantown Telegraph*, Mr. Hiram Walker, of Oswego county, N. Y., says: I have seen in the *Country Gentleman* lately several remedies for the cure of scratches, (or grease, as the English call it,) but all of them were for outward application and none for inward, to work on the blood. Scratches in horses, like salt-rheum in persons, generally arise from an impure state of the blood. They generally come on in the fall of the year, when the horses are taken from grass to hay and are much used, and the mud not properly cleaned after their day's work is done. I have often tried outward applications alone, but could never effect a cure. The best medicine I ever tried is to take one pound of Epsom salts, half a pound of saltpetre, pulverize well, mix them together, and give a tablespoonful of the mixture every morning; wash the parts affected with Castile soap, rub dry and anoint with Dalley's horse salve, and you are sure of a cure. This mixture, while it works in and purifies the blood, is a mild diuretic, but will not produce over stalling. This medicine will not take the horse from his daily work, but he should be kept from the storm, and not exposed to cold winds when warm.

Staggers in the Horse.—Some time since I had a case of this disease upon my premises; it was what is termed the sleepy staggers. The animal was dull and stood much of the time with his head nearly resting on the ground. I applied to a horse doctor; he attended him for some time, and finally pronounced him incurable at that season of the year, which was winter. As the horse was worthless in that condition, and having no appetite to eat, I concluded he would be a good subject to experiment on. I procured one ounce of calomel, which I made into four pills by adding a little flour and water. These were given one a day. Afterward I drenched him with aloes dissolved in alcohol, and in a few days I saw a change for the better. I then gave him the third ounce of calomel, following with the aloes, to keep his bowels open. During this treatment I fed him no grain; carrots and hay constituted his feed; and I am proud to say I made a sound horse of him, and he now works every day.—*Cor. Ger. Tel.*

If a horse is at all inclined to kick in harness, listen to no excuses made for his having done so. He may go quietly for a week, month or year; but unless he is a mere inexperienced colt, kick again he will, so sure as he is a horse. If, after knowing what harness means, a horse kicks, he is not to be radically cured of the propensity; believe no breaker who promises to "take it out of him."

Why is a hen immortal? Because her son never sets.

USEFUL RECIPES.

Rubbing of Hair Mange or Itch—Rub the animal on the afflicted parts with an ointment, composed of equal parts of sulphur and lard melted together; let it be well rubbed in. The next day wash it off with warm water and castile soap; after drying again, apply the ointment. Two or three applications will generally effect a cure. A tablespoonful of sulphur should be given in the feed every day for a week. Keep warm and well sheltered.

Warts.—Mix equal quantities of spirits of turpentine and sulphuric acid, stirring slowly in a tumbler, and afterwards bottle the ingredients. Rub the grease around the base of the wart with a feather once or twice a day; it will gradually eat it off.

Loose Bowels in Horses.—In all cases of chronic diarrhœa we have found putting powdered charcoal in the feed a very good remedy, and if the disease depends on a digestive function, the liver included—give a few doses of the following: Powdered golden-seal 2 ounces, ginger 1 ounce, salt 1 ounce. Dose, half an ounce twice a day.

Sore Mouth or Tongue, called Canker or Thrush.—*Symptoms.*—The mouth runs water, the horse cuds, or throws hay out of his mouth. The cause of this disease is often from frosted bits being put into their mouths, or by eating poisonous weeds.

Treatment—Remedy.—Take of borax three drachms, two drachms of sugar of lead, one-half oz. of alum, one pint of vinegar, one pint of sage tea. Shake all well together and wash the mouth out every morning. Give him no hay for twelve days.

Embrocation for the Throat.—This embrocation may be used without taking the hair off. Take 2 ozs. spirits of hartshorne, 2 ozs. spirits of camphor, 2 ozs. oil of turpentine, 1 oz. laudanum, mix well and put into a bottle; keep it well corked.

Wounds in Horses.—One of the best washes that we know of for ordinary wounds on horses, is to take one quarter of a pound of saltpetre, half a pint of turpentine, and put them into a bottle; shake up well before using; apply to the wound three times a day with a feather.

Galls.—In the first place, you must dispense with the use of a collar. The following lotion should be applied daily to the sore: sulphate of zinc, 1 drachm; aceate of lead, 1 drachm; water, 1 pint. Where it is very difficult to dispense with the use of a collar, some of the stuffing may be removed from it, so as to make a hollow opposite the sore part, which is thus relieved from pressure.

Loss of Hair.—The following is very useful in cases where there is a falling out of the hair of the mane and tail, viz: Glycerine, 2 ozs.; sulphur, 1 oz.; aceate of lead, 2 drachms; water 8 ozs. To be well mixed, and applied by means of a sponge.

Tender Hoofs.—Moisten the horse's hoofs with salt water or urine once a day and stuff them occasionally with a mixture of clay and cow dung. For worms, when a horse can be spared, a strong dose of physic is an excellent vermifuge, but a better medicine and one not interfering with either feeding or work of the horses, is emetic tartar with ginger made into a ball with linseed meal and molasses, and given every morning before the horse is fed half an hour or so.

Bone Spavin.—Apply a blister to the inside of the hock—one part of powdered cantharides to eight of oil makes a suitable blister. Give the horse three or four weeks' rest after the application of the blister.

From the New York Evening Mail.

THE VINE IN EUROPE.

Recent Observations by an American Vine-Grower.

Practical Details for Practical Men.

OBSERVATIONS IN THE TYROL.

THIRD ARTICLE.

BY CLARKE BELL.

The culture of the vine in the Tyrol differs essentially from that pursued in any other region in Europe that I visited.

As you leave the fertile plains of Italy and commence that grand ascent which culminates in the Brenner pass of the Tyrolese Alps, you follow along the banks of a river, which is fed by the glaciers of these magnificent mountains, the valley of which, as well as the adjacent mountain sides, are highly cultivated; and here often in high altitudes the vine flourishes, and most luxuriantly too.

It is planted in drills a few inches apart, from eight to twelve usually, and the drills set very far apart, often as far as sixteen to twenty feet, and rarely less than that distance.

The roots of the vine in the drills are raised upon the crown or summit of a mound or hill, which is hoed up at least two feet higher than the surface of the ground, on the exterior surface of the vineyard.

The training of the vine is most peculiar. A trellis is constructed on both sides of the plant and along the drills, which at the root of the plant is not more than two feet from the ground, and this is raised up on the sides so that at its outer side it is at least five, and sometimes eight, feet high, and extending from the vine on either side about eight feet.

The vine is trained laterally on either and both rides along this trellis, which it entirely covers, by season of the plants being so close together in the drills.

The vineyard resembles rows of the inverted roofs of houses all covered with the vine, and the fruit is suspended from beneath these ascending trellises.

The culture was universally of the highest and best character. The earth was always thoroughly stirred, and the vineyards were kept scrupulously clean and entirely free from weeds.

The culture was, from the nature of the case and from necessity, done wholly by hand, and while the laborer could not stand erect under this peculiar overhanging or reclining trellis, he always stooped and worked it, carefully going over with his grape hoe the whole surface of the soil, from the vine itself to the extreme outside of the trellis.

This method of culture, planting, and training I saw throughout all the Tyrol, both on the Italian slope and also on the Austrian side, and I was forcibly impressed with its merit and excellence, for the fruit itself properly cultivated in this method must of necessity be of the finest quality; quite close to the ground, easy of being picked, pruned, trained, and cared for, and the method worthy of study and imitation anywhere with a vine that is a strong grower, like our own American varieties.

The most striking feature of the vine itself in these districts is its magnificent and luxuriant growth. I did not at first know the cause, but soon came to understand it. The secret lay in copious and generous irrigation, which is in universal use by the Tyrolese farmer, not alone for his vineyards, but for all his crops. It will be remembered that through every considerable valley of this country there usually descends a rapid, mountain-formed river, while streams of more or less size and strength thus supplied, come into it from every tributary ravine and valley. No farms or cultivated places are found except those along the bank of a rapid torrent or a rushing swift river. In all these tributary streams, as well as in the river itself, the current is usually rapid, and in many of the smaller streams exceedingly swift. In these rivers and streams, all along, and especially when the current was strongest, were placed enormously high skeleton water wheels that were turned by the current itself, and which raised in buckets the water from the river to the top of the wheel, and then emptied it into troughs of conductors which led it into a grand reservoir from which, by a series of troughs and pipes, it was conducted over every square foot of the farm, or vineyard, at the pleasure of the proprietor.

The altitude of this wheel was usually higher than the surface of the farm or vineyard, and as the wheel was ever turning and the water always raising, there was no limit to the supply.

With this bountiful irrigation, as may well be supposed, a luxuriance of growth of all products is obtained here and especially of the vine. And this system of irrigation was quite universal, as I saw no considerable farm or proprietor without it.

The vine of the Tyrol is excellent, and although ranked as common wine it rarely is found in any market, and is as a rule consumed in the country.

A very large amount is both produced and consumed, and it is of much better quality than the Italian wines, and though inexpensive, would command remunerative prices if an excess were produced over their home consumption, which, as it is universally drank, is very great.

Resembling Switzerland in its externals, the Tyrol, although far south upon the map of Europe, is, as a whole, and so far as its vineyard culture is concerned, confined to high altitudes, along the sides of the mountains, and in the valleys of this Austrian Switzerland.

The people are far more advanced in intelligence and force of character than in some of the other Austrian provinces. It is the same race that defied so long Napoleon I. after the subjugation of Austria, and who gained their liberties under Andreas Hofer (the William Tell of the Tyrol,) that now plant and care for the vine and people and cultivate the hills and valleys of the almost inaccessible passes of the Tyrolese Mountains. The quaint dress of the women, and the ornamented jackets and feathered hats of the men, peculiar to the Tyrol, are now almost the only distinctive costumes of the peasantry remaining in Europe, and their wines are really much better than they are usually considered, mainly because they have been hitherto so little known and rarely drank out of the country.

Their skies would be almost Italian if their country was a plain, and the vine is frequently grown at the base of a mountain whose heights will be

crowned by the glacier which never melts; and the rain which fall on the vine in midsummer in a climate almost tropical rests frequently in snow on the summit of the mountain.

You may stand in the vineyards in the dog-days, when the grape are ripening, and see the snow and ice above your head on the mountain top, which never melts, and which seems strange, indeed, to the American or Englishman, this union of the Torrid and Frigid Zones at the same time upon the same estate; for the Tyrolese can ice his claret in midsummer from a store which is inexhaustible, from his own mountain.

In Austria.

The most important portion of Austria, so far as the production of wine is concerned, is now, and for a long time has been,

Hungary.

More than one-half of all the wine produced in Austria is made in Hungary and none of the Austrian wines, besides these, have obtained that celebrity abroad which the Hungarian wines have deservedly won.

Perhaps the vineyards which produce the best wines are those of Tokay, Pesth, Ofen, the Syrnia in the South, Warwitzs in the Bannat, Erlon, and Groswarden.

Although a very large amonnt is consumed in the country, a large business is done in the exportation of Hungarian wines, which is year by year increasing, as their real merits and excellence are becoming more widely known and recognized.

It has been the policy of the government to encourage and foster the culture of the vine, and for many year, an annual fair has been held at Pesth, for the wines of all Hungary.

The vineyards of Hungary have for a long time, by a usage amounting almost to law, been permitted to be purchased by the peasantry under an arrangement, by which they are obliged to pay one-tenth to the lord of the soil. This, with all the other burdens that have fallen upon Hungary, and her domestic troubles, have kept the common people in a state of miserable poverty.

Notwithstanding these untoward circumstances, the vine has probably suffered less than their other material interests, and great attention has for a long time been paid to its culture, and to improvements in the manufacture of wine.

More than thirty different kinds of wine are produced in Hungary, most of which find their way into the markets of the world.

The manufacture of wine is carried on almost exclusively by the peasants, in the coarsest and rudest manner, but who, notwithstanding all this, pay the most scrupulous attention to cleanliness in all that concerns the vintage.

The vats and the wine-presses are never used until they are thoroughly and well-cleaned with boiling hot water in which the leaves of the vine have been steeped.

The fruit is collected in wooden vessels and carried to the wine vats by the laborers and thrown into a vat which has a double bottom, the upper one of which is filled with small holes through which the juice may pass. They beat the grapes in the vats and bruise them with large sticks. After the first juice has thus run off and the vat has become filled, the whole contents are put under the wine-press. It is quite common here to separate the grapes for the white wines and red wines, but little attention is paid to removing the bad grapes, or to prevent decayed or unripe fruit from mingling in the wine-press.

After the press has been used all the must is thrown together into a large vat for fermentation for the white wines.

For the red wines it is quite common to dispense with the press altogether, letting the juice run through the double bottom of the vat, and throwing this refuse with the refuse of the wine press in one common mass into a huge vat, for distillation.

It is also quite common in Hungary to feed cattle on the refuse of the wine press, and to mingle different varieties of grape together for the production of their wines, and there are upwards of sixty varieties of grapes used in producing their various wines.

The most celebrated wine of Hungary is

The Tokay.

It is named after a town in High Hungary, and is the product of a district called the Sub-Montine, or Hegylla.

The grape itself in this district, unlike the usual wine grape of Europe, is large and of a rich and luscious taste.

The grape from which the Tokay is made is called the "Trocken beeren," or the "Hungarian blue," and is left on the vine until very late in the season, and sometimes literally till the snow comes, and, as I was told, have been even picked out of the snow for the vintage. When gathered they are dry and shrivelled, like a raisin. The berries are picked one by one, and most carefully assorted, for the wine commands a fabulous price.

The prime Tokay is called the Tokay Ausbrach, and is made from a variety called the Formint or Hans-levillii, the vintage rarely taking place until the end of October.

The Trockenbeeren have ripened a little earlier, and after being carefully picked and separated are placed in a mass on a great table slightly inclined with deep grooves, from which the juice, exuded by their own pressure alone, runs into earthen jars.

This first product forms what is known as the famous "Essence of Tokay" and is as rich as the syrup of the south of France. Its quantity is very small; it is preserved with the greatest care; is considered most precious, and is of enormous value. After this first slight work the grapes are trodden in a large vat with naked feet, and the must is allowed to stand twenty-four hours before it is set for fermentation, and a small portion of this wine essence is added to the must to flavor it. It is allowed to ferment from fifty to seventy-five hours, during which time it is frequently stirred, and all the matter comming to the surface carefully skimmed off frequently during this time, after which it is most carefully strained through cloths into casks.

Tokay Ausbrach is said to contain sixty-one parts of the essence and eighty-four parts of the wine.—It has a powerful and peculiar aroma, which would never be forgotten by any one who tasted it.

The vineyards which produces this wine are owned by the Emperor and some of the nobility, and it has long commanded most fabulous prices. Forty years ago it sold in Vienna as high as fifteen Napoleons per dozen, or about sixty dollars in gold.

At the Grant dinner given at Delmonico's this wine was on the list, and its price here is something like $20 per bottle of our currency.

This wine is not fit for use until after three years of age. If exported in casks it always ferments in

transportation by sea, but will work itself clear.

When bottled in Hungary a space is always left between the cork and the wine or the bottle will break, and a little oil is poured on top of the wine in the bottle, and a piece of bladder tied firmly over the cork.

The genuine has an oily taste, a slight taste of earth, with some astringency, but its peculiar aroma will always indicate it, as it can never be mistaken—no other wine in the world at all resembling it.

There is a peculiar wine in Hungary, which so far as I know, is never exported, called generally Vermuth, which is made by a mixture of wormwood, seeds of various kinds, and spice, over which old wine is poured, and then securely corked. It is held in high estimation at home.

In later years it has been common to mingle the "essence of the Tokay" with various kinds of Hungarian wines, to give them that peculiar flavor which is so rare, and which commands such prices. Few men would pronounce them better for this admixture, but it has characterized the wines because of the fashion.

There is nothing especially attractive in this peculiar taste, but fashion has decreed it to be *par excellence* superior to most others. To those uninitiated in it, the major part would not like it. All would say that it was strange and peculiar, and none would prefer it on its own merits, in my opinion.

In Austria.

Outside of the Hungarian wines the wines of Austria, as a whole, are of a very poor quality.—They are below the standard of the Italian wines. Perhaps the best are those produced in Transylvania. The wines of the Tyrol are much better than those of Austria, outside of Hungary, but these are all consumed in the country. There are some fair wines, both white and red, made near the head of the Adriatic Sea. The Capo d'Istria and St. Patronio are wines of merit, but within the vast territory of Austria preference should be given first to the Hungarian wines, next the Tyrol, and last, the wines of the various other provinces.

The Culture.

In Hungary the vines are planted and cared for more after the French methods, on poles to which the vine is trained, the poles being often removed in the winter, and the vine lying on the ground.

The culture in the Tyrol has been more carefully explained in another article.

In other parts of Austria I observed the pollard system of culture, with occasional vineyards trained low to trellises, after the German methods.

The vineyards between Bavaria and Vienna, and after leaving Vienna going toward Prague, were cultivated usually in the German methods, and resembled those vineyards in externals planted by the Germans in Ohio and Missouri, and some of the earlier vineyards on Crooked Lake near Hammondsport, New York, the vines set about four feet apart, in the rows quite close together, and in all cases trained to a single stake.

The vine was in almost all cases small and fragile and exhibited nothing of that luxuriant growth so marked in the Tyrol, in Northern Italy, or in some portions of America. It was very rarely seen more than five feet high, and quite commonly not more than three or four feet in height.

Every vineyard that I saw, without exception, in the whole of Austria was worked well and quite free from weeds. The most perfect culture in our own vineyards at home was never better than the culture in any part of Austria. The ground was kept thoroughly and constantly stirred and in splendid order.

Why Do Bees Swarm?

At the recent Michigan Bee Keepers' Convention, this subject was discussed. Mr. Otis is reported as saying: The strongest instinct God has given to the honey bee is the love for storing honey. This instinct is so strong that she will remove the young larvæ from its cells and destroy it, that she may make room for the gathered honey. But she does not thus destroy the brood unless crowded for room by an unexpected rich harvest for honey. It is to guard against the destruction of the brood, the queen-cells are started preparatory to swarming, which takes place as soon as one or more is sealed over.

The Creator has implanted in the queen-bee such unparalleled hatred toward a rival that but one normal queen is permitted to live in a family of bees. This hatred is so strongly developed that she will make divers attempts to destroy a rival while yet in the cell. But the worker bees keep the cells guarded, which so exasperates the old queen by the time one or more is sealed, that she rushes from the hive to find a new home, being accompanied by the majority of the colony. These are, therefore, the reasons why bees swarm: 1st. The want of combs to hold honey. 2d. To save the destruction of the brood. 3d. The hatred between rival queens.

Dr. Conkling said his bees did not always wait until they had sealed queen-cells. Two years ago he had opened a hive of bees as soon as the swarm had left, and he not only found no queen, but not even the signs of any being started.

Mr. Baldridge said he understood Mr. Otis to assume that bees do not swarm till the hive is full of comb, and the comb is full of brood and stores; and not then, even, unless there is one or more cells sealed. His (B.'s) bees swarm sometimes when the cavity is not more than two-thirds full. He thinks it is *natural* at the proper season, for bees to swarm. As a rule the cavity will be full, the combs well supplied with brood and stores, one or more queen-cells sealed, and the flowers secreting honey rapidly, when the swarm issues.

Mr. Moon also asserted that his bees swarm when the cavity is only part full. They also swarm when they have no queen-cells started; the cause is excessive heat. Bees will swarm at certain seasons of the year when there is no apparent cause; in the honey season it is as natural for bees to swarm as for the sun to rise, or the tide to flow.

Ladies Department.

AT REST.

BY HESTER A. BENEDICT.

I am come back mother, through the sunset's glory,
With feeble steps, and weary, fainting frame
To kneel as in my childhood's days before thee,
And hear thy sweet lips syllable my name.
I have been here in my feverish dreaming
Beneath the splendor of our own fair skies
That ever in their ceaseless gleaming
Bend to the brook's low murmured melodies,
And I have felt the soft thrill of thy fingers
Through all the brownness of my tangled hair,
And to my soul the voice where music lingers,
Floated through song and charmed me from my care.

T'was but a dream. Into my silent chamber
Laughter broke sweetly with the summer dawn,
And round the trellis where my rose vines clamber;
Bird-notes were trembling, but I missed their song,
And so when jeweled hands I touched in greeting
And beauty's lips were lightly pressed to mine
I smiled, some low and gentle words repeating,
Yet turned away to hush a cry for thine.
And now aweary of the glare and splendor
That filleth all the land beside the sea,
And wild with longing for thy touches tender,
I come, I come, sweet mother unto thee.

You mind what time from out its gilded prison
My bird escaped with sweetest of sweet trills,
And fluttered, singing, where the sun just risen
Trailed golden raiment o'er the eastern hills
You said: "Rejoice, rejoice my child!" and mother
Remembering now your look and tone and words,
I think that he and I are like each other,
Only my heart is lighter than the bird's,
And the green hills where daisy buds are blowing,
The lowland meadow where the strawberries be,
The dark wood, and the clear brook's flowing
Are dearer for my bondage by the sea.

But tell me mother, if the martin builded
Her nest this year, up underneath the eaves,
And raised her young where the soft sunshine gilded
Just as of yore, the pine trees whispering leaves,
If the meek kine are in the valley feeding,
The valley with the wild, deep wood behind,
And the white lambkins in the long lane leading
Where waves keep well, the secret of the wind,
And tell me, lower lean and whisper lightly,
Of that which lieth o'er the hills away,
The shelly mound where dreamily and whitely,
My little lamb sleeps all the summer's day.

Ah mother mine! in all the great world's bustle
There is no place so beautiful as this,
No sound so soothing as thy garments' rustle,
No song so thrilling as thy lightest kiss;
No love so kind, so true, so tender
As that which lures to the old home hearth
And holds me in the moonlight's softened splendor
A happy captive from the halls of mirth,
Nay, hold me closer! Do not weeping leave me;
Kiss my pale eyelids till they close in sleep,
For nothing sorrowful can vex or give me,
If loving vigil by my side you keep.

DOMESTIC SERVANTS.

We had frequent occasions when abroad to admire the happy relations existing—not in England, but on the Continent of Europe—between masters and servants. The "flunkey," as he is properly called in England, while full of supercilious arrogance to his inferiors, displays a degree of cringing servility in the presence of his employer often painful to witness. Not so in France or Germany. There, and particularly in the old families, the menial is the humble friend of the master, obedient without servility, familiar without impertinence; he always makes his own interests subservient to those of the family, of which he is often the hereditary servitor. The following anecdote from a recent French paper illustrates this trait. The young Marquis of W——, a Prussian nobleman residing at Berlin, a gambler and a prodigal, contrived in a brief period to squander a large inheritance. The only resource left him was an annuity settled upon him by a deceased uncle. Last summer the Marquis visited one of those numerous German villages to which people resort for the purpose of intrigue and gambling under pretext of taking the waters. On the day of arrival the young man resisted the tempter and abstained from gaming, and he held out for two days, but on the third he succumbed, and was among the first to take his seat at the fatal green cloth. What were the few contemptible hundred franc notes left in his poket-book!—they might as well follow their predecessors! But it seems, in this instance, the fickle goddess was in a relenting mood, and she showered her favors on her former victim; at every turn of the wheel, every venture of the young Marquis was doubled; his hundreds soon grew into thousands; a mound of notes and glitteaing gold arose rapidly before him. Intoxicated with the gambling furor, each moment he increased in daring—in brief, he broke the bank, and, what never had been done before, he broke it twice in the same day, and when the doors closed the young man went forth with four hundred thousand france in notes and twelve thousand in gold. Over-joyed at his success, he hastened to his hotel, where he found his old servant, Broumbach, awaiting his arrival, asleep in an arm-chair. Arousing him with a friendly pat upon the shoulder, he spread out his wealth before him. Participating to the full in his young master's happiness, the old man was almost wild with delight. "But this is not all, my faithful old Broumbach," said the Marquis; "luck will stick to me, and to-morrow I will return from the table a millionaire; and a million once in hand, old fellow, I will reform, get married, and we will all be happay again. And now, my friend, put away all this money and get to your bed, for you must be tired."

The old servant obeyed. He returned to his bed, but not to sleep—visions of gold and bank notes kept him awake. At dawn of day he crept softly into the bedroom of his sleeping master, and laid out ready for use all the appliances for the toilette, then looking round to assure himself that the Marquis still slept, he unlocked the *secretaire* containing the treasure. Leaving the gold, he seized the packages of bank notes and thrust them hastily into a traveling bag, then, on tiptoe, he reached the door, closing without noise, he descended the stair and hurried off to the railroad station.

When the Marquis awoke his servant was already far away. The fortunate gamester, eager to feast his eye upon his newly-acquired wealth, called Broumbach, but was told he had gone out. After waiting awhile impatience got the better of him, and he broke open the *secretaire*, not being able to find the key. The Marquis perceived at once he had been robbed, and yet did not send immediately for the police. He still had a vague hope of recovering his treasure. He waited. The next morning, however, he made up his mind—painful as it was—to denouce Broumbach, the old servant, who had been present at his birth, who had carried him an infant in his arms, and had remained faithful in adverse fortunes. The police were set to work. Three days after the Marquis received the following letter:

"My Good Master.—Here I am at Berlin. On my arrival I deposited your four hundred thousand francs with your notary. I left with you the twelve thousand in gold, which you may lose if such is your pleasure. I believe that with the four hundred thousand you may get married, and still be happy; don't, I beg of you, wait fore the million. I took the bag and my departure without your permission, for I

know you would have refused it. Did I do right? Your notary says I did, and that he will get you well married within two weeks. I am always your old and faithful servant. "BROUMBACH."

This letter was handed to the Marquis at the moment when he was losing the tenth thousand france note. He had two remaining, and these he determined not to risk. Thanking Providence, which appeared to him on this occasion in the form of his old servant, he left the same evening for Berlin.

The young Marquis was married within a month to a charming woman, a great heiress, and is now a reformed man, a good husband and a good father.

"And my present good fortune," he says to his friend, "is the work of my good old Broumbach."—*Turf, Field and Farm.*

How to Carve and Help at Table.

It is considered an accomplishment for a lady to know how to carve well at her own table. It is not proper to stand in carving. The carving knife should be sharp and thin.

To carve fowls, (which should always be laid with the breast uppermost,) place the fork in the breast, and take off the wings and legs without turning the fowl; then cut out the merry thought, cut slices from the breast, take out the collar bone, cut off the side pieces, and then cut the carcase in two. Divide the joints in the leg of a turkey.

In carving a sirloin, cut thin slices from the side next to you, (it must be put on the dish with the tenderloin underneath,) then turn it, and cut from the tenderloin. Help the guest to both kinds.

In carving a leg of mutton, or a ham, begin by cutting across the middle to the bone. Cut a tongue across, and not lengthwise, and help from the middle part.

Carve a fore-quarter of lamb by separating the shoulder from the ribs, and then divide the ribs.

To carve a loin of veal, begin at the smaller end and separate the ribs. Help each one to a piece of kidney and its fat. Carve pork and mutton in the same way.

To carve a fillet of veal, begin at the top and help to the stuffing with each slice. In a breast of veal, separate the breast and brisket, and then cut them up, asking which part is perferred.

In carving a pig, it is customary to divide it and take off the head before it comes to the table, as to many persons the head is revolting. Cut off the limbs and divide the ribs.

In carving venison, make a deep incision down to the bone to let out the juices, then turn the broad end toward you, cutting deep, in thin slices.

For a saddle of venison, cut from the tail toward the other end, on each side, in thin slices. Warm plates are very necessary with venison and mutton, and in winter are desirable for all meats.—*National Agriculturist.*

COUNTING BABY'S TOES.

Dear little bare feet,
Dimpled and white,
In your long night gown
Wrapped for the night,
Come let me count
Your queer little toes,
Pink as the heart
Of a shell or a rose!

One is a lady
That sits in the sun;
Two is a baby
And three is a nun;
Four is a lily
With innocent breast;
Five is a birdie
Asleep on her nest!

GOOD BREAD.

We can judge of the proportion of persons who know how to make good bread, from the infrequency we find it upon the table of our friends, and I may say even in some of the families of our farmers good bread is not always found. In the families of mechanics and laboring men it is the exception to find well-baked, wholesome bread. The largest proportion is heavy, poor, or sour, and the waste it makes, where there are no pigs to consume it, is very considerable in the course of a year. I remember on one occasion, when a good deal of sickness prevailed in our family, and I was incapable of making the bread, as I always had done, at least twice the amount of flour was consumed and we rarely had bread fit to go upon the table. I have now given up making bread, but have not failed to teach my daughters the art and mystery. I will give you my mode, and if it will instruct only a single housekeeper in the knowledge of making good bread I shall be repaid for my labor.

I set a sponge over night. To half a pint of lukewarm water, put in a gill and half of yeast and a pint of flour, (after measuring sift the flour,) and stir this all well together, strew a little flour over the top, and cover the dish and put it in the same temperature that the yeast was in. In the morning warm half a teacupfull of milk, (if water is used add half a teaspoonfull of butter,) add two tablespoonfulls of lime water after it is warm, and stir this into the sponge; have ready a pint and a half of flour, and knead this with half a teaspoonfull of salt into the sponge. Divide this into two portions, and put each into a buttered pan to rise, and when the dough rises to the top and bursts into little cracks, it is ready to bake.—These loaves will bake in a common stove or range-oven, heated with coal, in thirty or thirty five minutes. The advantages of lime-water are these: The dough requires less kneading, the loaves bake in less time, and the the bread keeps soft and moist longer and is less liable to mould, and it is healthy bread. After the bread is baked, it should be turned upside down from the pans on a folded cloth, and left there until cool. Then it may be put into a covered tin. I never lose any bread from mould by following this plan. In cool weather the pans containing the dough should be placed over a vessel containing hot water, or each pan over a bowl or pitcher with hot water in it, and covered with a cloth. These loaves are generally ready to bake in two or two and a half hours.

The finest flour does not make either the best or the wholesomest bread, and I avoid it. Good superfine will answer as well as any other; but the next grade above, called extra superfine, is preferred by many. Of all the yeasts I have tried I think that made from potatoes the best. I make it in this way: Take ten good-sized potatoes, boil them; when cooked, peel and wash perfectly smooth; pour on this a quart of boiling water, stir in a coffeecupfull of good sugar, and after standing a few minutes pour in a quart of boiling water wanting a gill; when lukewarm, a half pint of yeast to raise it, put it in a tightly covered vessel to ferment, and set it away in a moderately warm place until sufficiently risen, which may be known by the potato appearing upon the top of the liquid, and bright foamy spots bursting up through it. The temperature of the place where this is set to rise should be from 68 to 74 degrees. When risen, put into a stone jug and cork; tie in the cork and keep in a cool place. A gill and a half, or a common-sized teacupfull is sufficient to raise dough for two loaves of bread.

I never use soda or saleratus in any of my baking, and regard all such things as useless and unwholesome.—*Cor. Germantown Telegraph.*

Pamphlets, Catalogues, &c., Received.

From Ellwanger & Barry, Rochester, New York, their Catalogue of Ornamental Trees, Shrubs, Roses, &c., Descriptive Catalogue of Fruits, and Wholesale Catalogue for the autumn of 1869.

From Charles Black, Hightstown, N. J., Price List of Trees and Plants.

From W. T. Heikes, Dayton, Ohio, Wholesale Catalogue of Fruit and Ornamental Trees, Shrubs, Roses, &c., for Fall of 1869.

From Rev. James B. Avirett, Principal, the Annual Register of the Dunbar Female Institute, at Winchester, Va.

From Edward J. Evans & Co., York, Pa., Descriptive Circular of Choice Seed Wheat, Oats and Potatoes, embracing almost every variety. Send for circular.

From J. H. Babcock & Co., Lockport, New York, wholesale price list of Grape Vines, Small Fruits, &c. for Autumn of 1869.

From Wm. Watson, Brenham, Washington Co., Texas, his descriptive Catalogue of Fruit Trees, Grape Vines, Ornamental Shrubs, Small Fruits, &c, cultivated and for sale at the Rosedale Nurseries.

Annual Catalogue of St. John's College, at Annapolis, Md., for the Academic year 1868 9, and Prospectus of studies for the year 1869-70. St. John's College was founded in the year 1784, and endowed by the State of Maryland, and is the oldest and best organized seat of learning in the State. James C. Welling, LL. D, Principal.

The New Eclectic Magazine for September, besides much other interesting matter, contains the opening chapters of a sparkling new tale, called A Story of Eulenberg —a Poem of great elegance and tenderness, by John R. Thompson, read at the last meeting of the Alumni of the University of Virginia, (every graduate should have a copy.) An able article on The Positive Philosophy, by Mr. Lawrence C. Johnson, of Holly Springs, Mississippi. Brigandage in Mexico, by a Southerner, for many years a resident in that Country. A Poem, by William Morris, author of *The Earthly Paradise.* The Haversack, giving anecdotes of the Confederate Army, and a handsome tribute to their bravery, from an English source. Reviews on the New Books of the Month. The Green Table and Monthly Miscellany, Short Tales, Anecdotes, etc.

This is the Queen Monthly of the South. Why do not our people join hands to support a home institution? A copy of this Magazine should find its way to every cultivated Southern Home. Address, Turnbull & Murdoch, Baltimore, enclosing $4, the price of annual subscription.

Illustrated Annual of Phrenology and Physiognomy for 1870—contains 50 Engravings of leading Editors—Bryant, Greeley, Bennett, Brooks, Marble, Dana, Raymond, with portraits. The Male and Female Form; Why Children Resemble their Parents; Gen. Grant and his Cabinet, with Portraits; Physiognomy in Politics, or "Faces and Places;" Science of Conjugal Selection, Happy Marriages, Temperament in Wedlock; American Artists; The Sleep Walker; Brain Waves; Psychological; Sir Edward Landseer, Lorenzo Dow and Peggy his wife, Royal Ladies of the French Empire, with portraits; Guizot, the Statesman; How to choose a Helpmeet; What is Man? and much more in this Rich and Racy Annual, which sells for 25 cents. S. R. Wells, Publisher, New York.

The Southern Ruralist, by Russell & Addison, Tangipahoa, La., is a very valuable magazine, devoted to the agricultural interests of the South, and well worthy the support of her people. Both in ability and typography it is highly creditable to the publisher—only $1.50 per annum.

Good Health.—A journal of Physical and Mental Culture. The September number of this monthly is received. It is filled with very able and instructive articles on the human system, and is an excellent work of practical value. Published by Alexander Moore, Boston—$2 per year.

Vick's Illustrated Catalogue of Hardy Bulbs.—We have received from Vick of the Rochester Gardens his beautiful catalogue of Hardy Bulbs for 1869, embracing Hyacinths, Tulips, Crocuses, Snow Drops, Narcissous, Lilies, Iris, &c., &c. with remarks on Culture, &c.

Tennessee Central Fair Association.—We have received the List of Premiums and Rules and Regulations of the Second Annual Exhibition of this Association, to be held on the Fair Grounds, at Murfreesboro, Tennessee, commencing on Monday, September 27th, 1869, to continue one week. The List of Premiums has been greatly enlarged, and, as a whole, will be found one of the most liberal and comprehensive given by any other association in the South. Dr. L. W. Knight, President, T. B. Darragh, Secretary.

How to Fatten a Poor Horse.—Many good horses devour large quantities of grain or hay, and still continue thin and poor; the food eaten is not properly assimilated. If the usual feed has been unground grain and hay, nothing but a change will effect any desirable alteration in the appearance of the animal. In case oil meal cannot be obtained readily, mingle a bushel of flaxseed with a bushel of barley, one of oats, and another bushel of Indian corn, and let it be ground into fine meal. This will be a fair proportion for all his feed. Or the meal or the barley, oats and corn, in equal quantities, may first be procured, and one-fourth part of oil cake mingled with it, when the meal is sprinkled on cut feed.

Feed two or three quarts of the mixture three times daily, mingled with a peck of cut hay and straw. If the horse will eat that greedily, let the quantity be gradually increased until he will eat four or six quarts at every feeding three times a day. So long as the animal will eat this allowance, the quantity may be increased a little every day. But avoid the practice of allowing a horse to stand at a rack well filled with hay. In order to fatten a horse that has run down in flesh, the groom should be very particular to feed the animal no more than he will eat up clean and lick his manger for more. —*Ex.*

Bread was first made with yeast in 1750.

BALTIMORE MARKETS---Aug. 28.

Prepared for the "MARYLAND FARMER" by JOHN MERRYMAN & Co., BALTIMORE.

[*Unless when otherwise specified the prices are wholesale.*]

BEESWAX—Western 40 cts.; Southern 42 cts.

COFFEE.—Rio 16@18 cts., gold.

COTTON.—Low Middling 32½@32¾ cts.; Middling, 33 @34 cents; Ordinary Upland 28@29 cents.; Good Ordinary 29¼@30 cts.

FEATHERS.—Common to mixed 40@50 cts. per lb.; fair to good 55@60 cts.; prime live geese, 80 cts.

FISH.—No. 1 Bay mackerel $29@31; No. 1 Shore $24 @26; No. 2 $19@20; No. 3 $12@13; medium $10.50@11; Labrador herring $7.50@8.00; gibbed $5.50@6.50; Codfish $6.50@7.50, per 100 lbs.

FLOUR—

Howard Street Super	$ 6.00	@	$ 6.50
" " Shipping Extra	6.75	@	7.00
" " High Grades	7.00	@	8.00
" " Family	7.50	@	9.00
Western Winter Super	6.00	@	6.25
" Shipping Extra	6.75	@	7.00
" Choice Extra	7.00	@	7.50
" Family	7.50	@	8.50
Northwestern Super	0.00	@	0.00
do Extra	7.00	@	7.50
City Mills Super	6.00	@	6 75
" " Standard Extra	6.75	@	7.25
" " Shipping brands Extra	7.50	@	7.75
Patapsco, Horicon, Reservoir and Weverton Family	00.00	@	10.50
G. W. Legg's Family	00 00	@	00.00
Union Mills Acme Family	00.00	@	00.00
Greenfield Family	00.00	@	11.75
James S. Welch's Family	00.00	@	00.00
Baltimore High grade Extra	10.00	@	10.50
Ashland Family	00.00	@	10.50
Linganore	00.00	@	10.50
Rye Flour	6.50	@	6.75
Corn Meal—City Mills	0.00	@	5.50
Buckwheat—New York ₱ 100 lb	0.00	@	0.00
" Pennsylvania	0.00	@	0.00

FERTILIZERS—

The Agent of the Peruvian Government having closed out the entire Stock at this Port, dealers are charging $80@85 per 2000 lbs., as to quantity.

Turner's Excelsior	70	₱ ton of 2000 lbs.	
Turner's Ammo. S. Phos	55	₱ ton	"
E. F. Coe's Ammo. S. Phos	55	₱ ton	"
Soluble Pacific Guano	60	₱ ton	"
Redonda Guano	30	₱ ton	"
Flour of Bone	60	₱ ton	"
Andrew Coe's Super-phosphate	60	₱ ton	"
Baugh's Raw Bone S. Phos	56	₱ ton	"
Baugh's Chicago Blood Manure	50	₱ ton	"
" " Bone Fertilizer	46	₱ ton	"
Zell's Raw Bone Phosphate	56	₱ ton	"
Rhodes' do	50	₱ ton	"
Mapes' do	60	₱ ton	"
Bone Dust	45	₱ ton	"
Horner's Bone Dust	45	₱ ton	"
Dissolved Bones	60	₱ ton	"
Baynes' Fertilizer	40	₱ ton	"
" Fine Ground Bone	45	₱ ton	"
"A A" Mexican Guano	33	₱ ton	"
"A" do. do	30	₱ ton	
Moro Phillips' Super-Phosphate	56	₱ ton	
Berger & Burtz's S. Phos. of Lime	56	₱ ton	
Whann's Raw Bone Super Phos	56	₱ ton	
Md. Fertilizing & Manufacturing Co's Ammoniated Super-Phosphate	.55	₱ ton	
Fine Ground Bone Phosphates	.30	₱ ton	
Plaster	$2.25	₱ bbl.	

Sulphuric acid, 3 cts. ₱ lb.—(Carboy $3.)

Nitrate of Soda (refined Saltpetre) 6¼ cts. per lb in kegs of 100 lbs.

GRAIN.—*Wheat*—Pennsylvania fair red $1.40; Maryland do. low grade $1.20@1.30; good to prime do. $1 40@1.50; choice do. $1.65; prime white $1.65@0.00 *Corn*—Prime new white 118@120 cts; damp 00@00 cts.; old white 00; yellow 80 @00. *Oats*—55@60 cts. weight. *Rye*—$1.15@1.16.

HAY AND STRAW.—Penna. Timothy, baled, $20@22; Rye Straw $20@22 per ton.

MILL FEED.—Brown Stuff 20@21 cts; Middlings 32@35 cts., per bushel.

MOLASSES—Porto Rico, 55@65 cts; Cuba clayed 47@50 cts.; E. Island 45@65 cts. New Orleans 00@00; Muscovado 50@56 cts.

POTATOES.—Market depressed—prices low.

PROVISIONS.—Shoulders 16¼ cts.; sides 19@19¼ cts.; clear rib 19½ cts.

SALT.—Fine $2.70@3.00, per sack; ground alum $1.85@ 2.00; Turks Island 50@55 cts., per bushel.

SEED.—Clover $9.50 Timothy $4 00.

SUGAR.—Cuba 11½@11¾; Porto Rico 11¼@11¾; Demarara 13¼@15 cts.

TOBACCO—

Maryland—frosted to common	$ 4.00	@	$ 5 00
" sound common	5.00	@	6.00
" good do	6.00	@	7.00
" middling	7.50	@	10.00
" good to fine brown	11.00	@	15.00
" fancy	17.00	@	30.00
" upper country	7.00	@	35.00
" ground leaves, new	3.00	@	12.00
Ohio—Inferior to good common	4 00	@	6.00
" brown and greenish	7.00	@	8 00
" good and fine red and spangled	00.00	@	00.00
" medium and fine red	9.00	@	13.00
" common to medium spangled	7.00	@	10.00
" fine spangled	12.00	@	25.00
" fine yellow and fancy	00.00	@	00.00
Kentucky—common to good lugs	8.00	@	10.00
" common to medium leaf	11.00	@	14.00
" good to fine	15.00	@	18.00
" select leaf	20.00	@	25.00

WOOL.—Unwashed, 32@33 cts.; burry 25@27 cts.; tub washed 48@50 cts; pulled 33@38 cts.

WHISKEY.—116@120 cts.

PATAPSCO GUANO COMPANY.

:o:

Incorporated by an Act of the Legislature of Maryland, August, 1868.

:o:

The sole management of its manufacture so favorably known as the

PATAPSCO AMMONIATED SOLUBLE PHOSPHATE

Is confided to Dr. G. A. LIEBIG,

So well known to the agricultural community as one of our most experienced and reliable agricultural chemists, giving a guaranty that the product of this Company is a combination of such ingredients as are suited to produce a first-class fertilizer, and that nothing of an inferior or adulterated nature will under any circumstances be used.

At the date of its organization in August last (1868,) the Managers of the Company decided to elevate the standard of their brand and give the consumer an article equal, if not superior, to any fertilizer heretofore used.—This has been done at a much increased cost to the Company, but without increasing the price to the farmer.

How far we have been successful in accomplishing so desirable a result is now well known and appreciated in the many localities where it has been used during the past ten months.

The Managers of the Company may be permitted, without incurring the charge of egotism, to refer with pride and satisfaction to the record made. All our correspondents, extending through the Middle and Southern States, without exception, testify that the "PATAPSCO" is giving entire satisfaction and showing fine results. Those who have had it since 1865 and 1866 say "it is doing better than ever before—surpassing all others."

This has been so gratifying, that notwithstanding the increased cost, as before stated, has been heavy, we shall aim in the future to place the standard still higher, and give the consumers an article combining all the principles necessary for any crop or soil, and at same time act as a *permanent improver*.

In the present issue of the *Maryland Farmer* we publish the opinion of a few good farmers who have used the "PATAPSCO," all of whom are gentlemen of veracity and can be relied upon. We could present hundreds of others.

To those who have not used it we recommend a trial—it will demonstrate its value, especially as *a renovator of exhausted lands*.

We have, since last season, procured at large cost a machine for pulverizing more finely our fertilizer for drilling purposes.

Farmers and others visiting our city are invited to call at the office of the Company, No. 65 South Street, corner of Pratt, and examine specimens, which for its mechanical condition and adaptation for drilling has no equal.

In future, as in the past, this Company will maintain such a high standard for its manufacture as to render its brands a sufficient guaranty to those who use it that no better fertilizer than the "PATAPSCO" can be procured at any price.

All communications should be addressed to the

Patapsco Guano Company,

NO. 65 SOUTH STREET, BALTIMORE, MD.

☞ PRICE $60 PER TON. Discount to dealers.

GEO. W. GRAFFLIN, Treas. BENJ. G. HARRIS, Pres't.

G. A. LIEBIG, Chemist. H. E. BERRY, Secretary.

WORKS, PATTERSON'S WHARF, (PHILPOT STREET.)

PATAPSCO CERTIFICATES.

:o:

KENNEDYSVILLE, July, 1869.

Dear Sir:—I purchased and applied to my wheat crop last fall, twenty-six tons Patapsco Ammoniated Soluble Phosphate. Upon fallow land used one hundred pounds per acre, and on corn ground two hundred pounds per acre; the results justify me in recommending it as a first class fertilizer. My crop is heavy and stood well. Not having threshed cannot give the actual results, but have no hesitation in saying it is a *good crop.* Wherever the Patapsco has been used in my vicinity, the results are good and warrant me in saying it is a leading article and will be freely used this fall. After threshing I will give you the particulars as to weight and yield.

Truly yours,
WILLIAM WELCH.
State Senator, Kent County.

LOCUST GROVE, KENT Co., July, 1869.

Dear Sir:—I beg to add my testimony to the beneficial effects of your fertilizer. I used last fall one hundred and seventy pounds per acre upon my wheat, and I do not hesitate saying it is the best manure I ever used, not excepting No. 1 Peruvian Guano. In fact, both my wheat and clover are better than where I used the Peruvian, although I made equal applications of each. The Peruvian cost one-third more than yours. I shall use the Patapsco this coming fall.

Respectfully yours,
SAM'L R. JEWELL.

KENNEDYSVILLE, July, 1869.

Dear Sir:—I made use of four tons Patapsco last fall on wheat. One hundred and sixty-seven pounds, or one bag to the acre on corn land planted same year. It gives me pleasure to state I am well pleased with the result and believe it to be a first rate fertilizer. Shall use it again.

Yours truly, PHILIP F. RASIN.

GALENA, KENT Co., July, 1869.

Dear Sir:—I was induced to use one ton and a half Patapsco last fall upon my wheat crop. I have the best yield I ever made during the twenty-six years that I have been farming. I used other fertilizers at same time, but the Patapsco is greatly superior to any of them, therefore I shall, in future, use nothing else. On fallow land I got twenty-five and a half bushels, and on corn land twenty bushels per acre. I applied some on corn this spring with astonishing results. I believe it the best fertilizer in use, and therefore recommend it to all farmers.

Respectfully yours, &c., E. CROUCH,
Register of Wills for Kent County.

BUCKEYESTOWN, FREDERICK Co., June 24, '69.

Gentlemen:—I have used the Patapsco Ammoniated Soluble Guano upon wheat and am much pleased. It is equal to anything I have tried, even at much higher cost, and therefore recommend its use to others; shall use it again this fall. Yours truly,

ADAM SCHAEFFER.

FREDERICK Co., June, 1869.

Gentlemen:—I purchased your Patapsco Guano last fall of Mr. W. R. Boyd, and applied it upon my wheat crop. I can say that the crop looks better than any I have seen in the neighborhood. Believing it to be very superior, I shall continue to use it upon my crops. Yours, &c., D. T. JONES.

LOCUST GROVE, July 12, 1869.

Dear Sir:—I am one of many of my neighbors who used last fall, upon wheat, the Patapsco Guano. I used four tons at the rate of two hundred pounds per acre. I also used four tons of another standard fertilizer but in larger quantity per acre; the difference in favor of Patapsco is very marked; the crop grew off finely; the straw firm and stood well; the heads long, full and heavy. The Patapsco seems to impart a stiffness to the straw not usual in the most of fertilizers I have used. I have no hesitation in saying it is the best article I have seen. I applied this spring upon my corn one hundred pounds per acre—one handful to five hills—although much less than you recommended—it has acted like a charm—my corn is twice as promising upon which it was applied. I also used it upon potatoes, which look very fine. I shall use it this fall. With best wishes for your success, I am yours, &c.,

W. O. SHALLCROSS.

ELLERSLIE, BALTIMOR CO., MD.
July 24, 1869.

Mr. JOHN G. HEWES.

My Dear Sir:—In reply to your letter of the 22d, in reference to the "Patapsco Guano," it gives me pleasure to state that I have use it for several years upon my various crops at the rate of 175 pounds and over to the acre with most beneficial results. I consider it especially good for corn applied in the hill before planting, at the rate of one handful to every three hills, and also on grass sown or drilled with the wheat in the fall.

I am unable to say, from the time I have been using it, whether its benefits are as lasting as from * * * * but the immediate effect seems to be quite equal to it, with the merit of being less in cost.

I sowed some this spring upon a piece of backward corn ground, wheat which was sowed late last fall with grass. The result was that at harvest it was quite as advanced and as well filled as any wheat or grain I had.

While I am not prepared to class it above Turner's Excelsior as a manure, I consider it better than some, and *fully equal* to any other fertilizer I have tried.

Very respectfully yours, &c.
A. KENNEDY.

ALDIE, LOUDOUN CO., VA., July 12, '69.

Messrs. BREWIS & LAWSON.

Gents:—The "Patapsco Guano" bought of you last fall was applied to corn ground wheat, and it acted well—fully up to my expectations. It showed that it was a strong fertilizer up to the 1st of June, when a destructive hail storm destroyed my entire crop. Its good effects were clearly shown on the growing crop, however, and I am fully satisfied that it is an excellent application.

Yours, truly,
BEVERLY HUTCHINSON.

FREDERICK CO , MD., June, 1869.

Gents:—I purchased of Mr. W. R. Boyd last fall some of your fertilizer (Patapsco Ammoniated Soluble Phosphate) and applied it on wheat, alongside of other popular manures which are largely used in this vicinity. It gave more satisfaction than any of them. I consider its standing as *A No.* 1 among fertilizers, being both active and permanent in its effects. I shall continue its use and recommend it to all farmers who want a good and reliable article.

Yours, truly, RD. SIMMONS.

LOUDOUN CO., VA., July 12, 1869.

Messrs. BREWIS & LAWSON.

Dear Sirs:—The Patapsco Guano I purchased of you last fall was applied to my wheat; it acted finely. I consider it as beneficial as any fertilizer I have used for some years. I drilled about ninety pounds per acre, and made a good crop on corn land sown about November 5th.

Yours, respectfully,
JNO. B. LEE.

ARCOLA, LOUDOUN COUNTY, VA.
July 15, 1869.

Messrs. BREWIS & LAWSON.

Gents:—The "Patapsco Guano" I used on my wheat crop last year was applied to corn ground about 150 pounds per acre; it produced a vigorous growth, grained well and gave entire satisfaction.

Respectfully yours,
A. H. LEE.

MIDDLETOWN, FREDERICK, CO., MD.
August 10, 1869.

I purchased of Baker & Co., of Winchester, through their agents, W. & J. Hottell, 1½ tons of Patapsco Guano last fall. I used 200 pounds per acre (broadcast) on corn ground, which yielded 20 bushels of good wheat per acre. I left a strip through the field without the Guano, which did not yield over six bushels per acre, and not of as good quality as the balance. I also applied it on wheat stubble with equal success. I will use it this fall again, as I esteem it the best in use for the price.

Yours, truly,
SAMUEL SPERRY.

LOCUST GROVE, July 10, 1869.

Gents:—I am much pleased with your fertilizer, having used six tons on my last fall crop. On fallow land I applied two hundred pounds per acre—the result was a splendid crop of wheat. On the corn land, which was thin, used only one hundred and fifty pounds—notwithstanding I got a very fine crop, and the *clover is well set.* This spring I used three hundred pounds per acre on potatoes; the prospect for a fine crop is very good. The Patapsco is a favorite fertilizer in this neighborhood. I shall use it this fall. Yours, truly,
J. W. HURT.

Patapsco Certificates---Continued.

:o:

CHESTERVILLE, KENT Co., July 12, 1869.

Dear Sir:—I used 4 tons "Patapsco" on my wheat crop last fall—180 lbs. per acre on stubble land—and I have as fine a crop as there is in this county. I tested it alongside of an article that cost $70, and now give the "Patapsco" the preference over all I have ever used. I will want at least ten tons this fall. JOHN F. NEWNAN.

KENNEDYSAILLE, KENT Co., July 12, 1869.

Sir:—I will give you my experience with the "Patapsco Ammoniated Soluble Phosphate." I used last year 3½ tons—applied 200 lbs. per acre on corn land, and have as fine a crop as any one could desire.

I tried some alongside of an article made in Philadelphia, costing same money, on same land, and equal quantity. There is no comparison in the results, the Patapsco being far the best.

I have seen the effect upon my neighbors corn crop, and much regret not using it on mine. I shall want several tons this fall.

Yours, truly, S. A. MERRITT.

BUCKEYSTOWN, FRED'K Co., July 24, 1869.

Gentlemen:—I applied the Patapsco Ammoniated Soluble Phosphate upon part of my wheat crop last fall, and consider it equal to anything I have ever used, and much cheaper. Respectfully, DAVID THOMAS.

FREDERICK Co., MD., July, 1869.

Dear Sir:—Having used the Patapsco Guano last fall on wheat, and this spring on my corn, I take pleasure in saying it is the best Fertilizer in use for either of those crops, not excepting those manures which cost more, and I take pleasure in recommending it to those farmers who want a good article.

Yours, truly, JOHN W. UNGLESBEE.

LOCUST GROVE, KENT Co., July 10, 1869.

Dear Sir:—I was induced to use one ton and a half of your guano upon my last wheat crop. Applied two hundred pounds per acre. It gives me pleasure to testify to the excellent results. The wheat grew off splendidly—matured early, is well filled and heavy—altogether it is a very fine crop. I tried half a ton on my corn with another article which was highly recommended by those who had used it, but so far your's is far ahead. I believe the Patapsco to be the best article in use. I only applied one hundred pounds per acre. Shall use it again this fall.

Most truly yours, JAMES WILLIS.

LOCUST GROVE, KENT Co., July, 1869.

Dear Sir:—I used only one ton of your Patapsco last fall on my wheat crop side by side, pound for pound with another good fertilizer costing seventy dollars per ton; there is no difference; my wheat is remarkably good. I regard yours as a first class fertilizer and will use it this fall. Yours truly,

JERVIS SPENCER.

CHESTERVILLE, KENT Co., July, 1869.

Dear Sir:—I used upon part of my wheat crop last fall, very late in the season, one hundred and fifty pounds Patapsco per acre, *broadcast*. I do not consider it had a fair chance; nothwithstanding, its action justifies me in saying it is a *good* article and I will use it altogether the coming fall. Yours, respectfully, DEWITT C. SPEAR.

LOCUST GROVE, KENT Co., July, 1869.

Gentlemen:—I bought last fall two tons of your "Patapsco" and applied two hundred pounds per acre in the drill on my wheat crop and corn land. I don't see how I could have gotten a larger or better yield. It grew off well, ripened early and while there was a full yield of straw, which stood well, the grain is full and heavy, proving conclusively the fertilizer used is a very superior article. I want nothing better and shall use it this fall.

Yours truly, ROBERT COMLY.

GALENA, KENT Co., July, 1869.

Dear Sir:—I applied *two* tons last fall to my wheat crop—two hundred pounds per acre broadcast—and am well satisfied with the result. I consider it the best fertilizer made, and would therefore rather use it than any other I have seen. I have seen it tested in equal quantities with a more costly article and produced an equal crop. Yours truly,

JAMES S. WILSON.

For further information, &c., see general advertisement.

MIDDLETOWN, August 1, 1869.

I bought of Baker & Co., through their agents, W. & J. Hottell, last fall, 1½ tons Patapsco Guano, which I sowed on my wheat at the rate of 175 pounds to the acre, and obtained a good yield of good wheat. I am so well pleased with the result that I will use more this fall.

JOHN M. JONES.

MIDDLETOWN, July 30, 1869.

I purchased last fall of Baker & Co., through W. & J. Hottell, 1½ tons of Patapsco Guano. I believe it to be the best fertilizer I have ever tried, and I am well satisfied with the result. I feel confident my crop of wheat was increased one-third. I will use it again this fall.

J. W. HEUSELL.

FREDERICK Co., MD., June, 1869.

Gentlemen:—I purchased of Mr. W. R. Boyd last fall, some of your fertilizer (Patapsco Ammoniated Soluble Phosphate), and applied it on wheat alongside of other popular manures, which are largely used in this vicinity. It gave more satisfaction than any of them. I consider its standing as *A No.* 1 among fertilizers, being both active and permanent in its effects. I shall continue its use and recommend it to all farmers who want a good and reliable article.

Yours truly,

RICHARD SIMMONS.

GALENA, KENT Co., July, 1869.

Dear Sir:—Upon my wheat crop last fall I applied one ton and a half of your fertilizer, one hundred and fifty pounds per acre upon thin unimproved land. I am much gratified with the result. Have a splendid crop—at least twenty-five bushels per acre on flat land. Under the most favorable circumstances I am confident it would not have produced over twelve or fifteen bushels. This spring I used one thousand lbs. on twelve acres of corn, which grew off vigorously and looks remarkably fine. I do not hesitate saying your guano is the manure needed by the farmer. Shall use no other while I can get yours, and recommend my neighbours to give it a trial.

Most truly yours,

T. N. TAYMAN, M. D.

SAVANNAH, GA., July 27, 1869.

GEO. W. GRAFFLIN, Esq., Treasurer,
Baltimore, Md.

Dear Sir:—* * * I to-day had an interview with a gentleman from Matthew's Bluff, who said "he would not call Willingham's crop the best in that section, nor the best on the river, but it was the best prospect for a crop ever seen in the State!" "And that the Patapsco was ahead of every other fertilizer in that section." And I confirm the above, as I hear it from all sections of the State. Those who do not place it ahead of all others state that it equals the best, and we cannot desire more. * * *

Yours, very respectfully,

LUDLOW COHEN.

THE PLAINS, VA., August 25, 1869.

Messrs. WASHINGTON & LOVE.

Gents:—This is to certify that last fall I used the Patapsco Guano, and sowed it side by side with the "Excelsior." I could see no difference at all at any time. I am perfectly satisfied with its use, and can cheerfully recommend it to farmers generally as a reliable fertiliz r.

THOMAS COCKRILL.

MIDDLEBURG, Loudoun Co., Va.
August 7th, 1869.

Mr. FILLER:

This is to certify that I used, against my will, two tons of your Patapsco Guano, because I could not get Turner's Excelsior, and am very much pleased with the result; the best crop I have raised from any fertilizer since the war.

JAMES SKINNER.

THE PLAINS, August 17, 1869.

Messrs. Washington & Love.

Gents:—This is to certify that last fall I purchased from Mr. A. M. T. Filler some 5 or 6 tons of the "Patapsco Guano," which was sowed upon my wheat at the rate of 150 to 200 pounds per acre.

One field was sowed one-half in Patapsco, and one-half in Excelsior. I saw no difference in the effect of the two at any time during the growth of the wheat. Both acted well. On another field I sowed it entirely, at the rate of 200 pounds, and made the best crop of wheat that I have made since the introduction of guano and other fertilizers.

Yours, truly,

ROBT. E. PEYTON.

BONE DUST.

The subscriber has just erected at his farm, near the city, the most improved machinery for making

BONE DUST,

And is now ready to fill orders for any quantity, which will be delivered at the shortest notice. The Bone Dust will be finer than any heretofore made by him, (no chemical process resorted to,) enabling the farmer or planter to sow it with the Drill.

Mr. SAMUEL SANDS,

Well known to the farmers and planters of the United States as the former editor of the *American Farmer* and *Rural Register*, will have charge of his office, No. 63 S. GAY STREET, near Pratt, and will be happy to receive the visits or orders of his old friends.

$45 PER TON, put in new bags. No charge for bags. Farmers and others are invited to visit my works. I have nothing to conceal. My men have nothing nice to perform, therefore I have no "non admittance" signs on my premises. Persons are free to examine my factory, and the *modus operandi* of Dust-making.

I cannot afford to pay 5, 10 or 20 per cent. to commission merchants, as my profits do not exceed 10 per cent. Bone Dust, as manufactured by me, is *A simple*, and its quality cannot be made to conform to the price.

JOSHUA HORNER,

OFFICE, 63 SOUTH GAY STREET, near Pratt,

Or **Cor. Chew and Stirling Sts.**

aug-6t **BALTIMORE, MD.**

SOUTHDOWN BUCKS.

Very superior, from Ewes from importations from the celebrated Webb flock of England, and by a selected Buck from the noted flock of the late Mr. Taylor, of Holmdel. This Buck was only sold by Mr. Taylor upon condition that he might reclaim him for his own flock, which his death however prevented

☞ Price $50, caged and delivered on cars.

ODEN BOWIE,
Collington P. O.,
1t Prince George's County, Md.

Early Rose Potatoes

FOR SALE.

EARLY ROSE POTATOES by the Bushel, Barrel or 100 Barrels. Also, Strawberry, Raspberry and Blackberry PLANTS; Currants, Bushes, Asparagus Roots, &c.

☞ Send for a list of prices.

CHAS. COLLINS,
sep-3t Moorestown, N. J.

PURE BRED Alderney Calves AND SOUTHDOWN BUCKS AND BUCK LAMBS.

☞ For sale by

J. D. RICHARDSON,
sep-2t Buckeystown, Frederick Co., Md.

SAUL'S NURSERIES

Washington City, D. C.

The undersigned offers for the FALL TRADE an extensive general NURSERY STOCK of finest quality and at very moderate rates.

FRUIT TREES.—Pears, standard and dwarf, Apples, Peaches, Cherries, Apricots, &c.

GRAPE VINES.—Concord, Delaware, Andirondac, Clinton, Ives, Rentz, &c., for vineyard planting, at low rates. Also, Martha, Black Hawk, Weehawken, Iona, Israella, &c.

STRAWBERRIES.—The new varieties, with all the standard kinds which succeed best in this latitude.

BLACKBERRIES, Raspberries, Gooseberries, Currants, Asparagus and Rhubarb Roots.

ROSES.—All the new varieties of '68 and '69, including Miss Ingram, Marshal Niel, &c.

EVERGREENS.—Retinosporas in variety, Rhododendrons, Norway Spruce, Silver Fir, Austrian and Scotch Pine, and a large stock of small sizes suitable for Nurserymen.

NEW DOUBLE GERANIUMS, New Zonale and Variegated Geraniums, &c., New Clematises, New Enonymus, Ivies, New Chrysanthemums, New Phloxes, &c., with a large collection of new and beautiful plants, which he offers to the notice of Nurserymen, &c.

BULBOUS ROOTS, of finest quality, direct from Holland.

☞ Catalogues mailed to applicants.

JOHN SAUL,
sep-2t WASHINGTON CITY, D. C.

Alderney Calves FOR SALE.

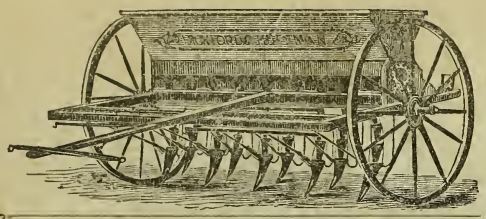
Three HEIFER and three BULL CALVES of pure Alderney stock. Price $50 to $100.

Address, SAMUEL SUTTON,
St. Dennis P. O.
1t* Baltimore County, Md.

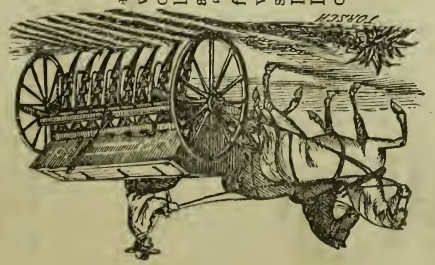
KNEE SPRUNG HORSES

Permanently cured without cost or trouble. Address W. T. BAKER,

Sentinel Office,
jy-tf Waterford, N. Y.



THE "FARMER'S FAVORITE" is emphatically a GRAIN DRILL. There are many other Drills which are called Grain Drills, but they are really only wheat drills, as they cannot sow any grain larger than wheat with any degree of certainty. To all farmers who want a Drill we would say get the "Farmer's Favorite," as it is not only the best drill for sowing wheat and other small grains, but it is very far ahead of any other drill in the market for sowing oats, peas, beans, corn and all coarse grains. If you get the "Farmer's Favorite" you will have a Drill that is a perfect machine for sowing all kinds of grain.



THE "NE PLUS ULTRA"

—OF—

AGRICULTURAL IMPLEMENTS,

—IS—

THE "FARMER'S FAVORITE"

—OR—

BICKFORD & HUFFMAN'S

CONTINUOUS FEED

DOUBLE DISTRIBUTOR

GRAIN DRILL,

With the Improved Guano Attachment and Grass Seed-Sower.

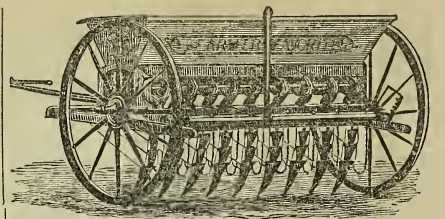
Warranted the most perfect distributor of both coarse and fine grain manufactured.

Orders promptly filled, and all communications answered by addressing

W. L. BUCKINGHAM,
General Agent,
59½ South Charles st.,
BALTIMORE, Md.

PRICES—Delivered on Boat or Cars at Baltimore.

8 Tube Grain Drill		$85 00
9 " "		90 00
8 Tube "	with Phosphate Attachment	125 00
9 Tube "	"	130 00
Grass Seeder		10 00



The "Farmer's Favorite" stands unrivalled for the purpose of seeding grain of any kind. The various commercial manures and the small field seeds at one operation, and superiority is claimed for it in the following particulars over all other Drills, viz:

For doing its work better.

For being more durable and less liable to get out of order.

For the amount of work it will do with the little power used.

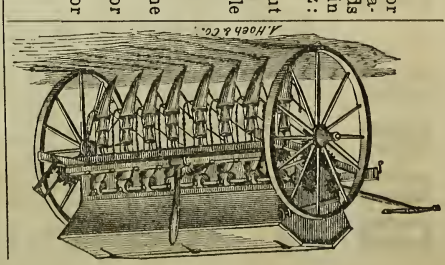
For the simplicity of its working parts.

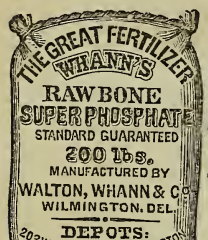
For the ease with which it is managed.

For its adaptability for sowing coarse or fine grain.

For its exactness in sowing fertilizers, dry or damp.

For the neatness of its work, leaving no grain or fertilizer on the surface uncovered.





FALL SEASON 1869!

WHANN'S

Raw Bone Super-Phosphate.

The Great Crop Producer

And complete Renovator of Worn-out Soils

A UNIFORM STANDARD OF QUALITY ALWAYS GUARANTEED.

A list of farmers who have used this Super-Phosphate:

B. Maitland.. .....Anne Arundel county, Md.
Milton Whitney..... " "
E. K. Arnold..... " "
J. W. Selby..... " "
Horace Walker..... " "
Walter Smith..... " "
Charles Pulley..... " "
Samuel Cottingham..... " "
Thomas J. Hall..... " "
Dr. Henkle..... " "
J. Dougherty..... " "
Orson Adams..... " "
R. M. Pindle..... " "
Dr. Richard Weems..... " "
P. L. Smith..... " "
P. Lenfield Perkins..... " "
Dennis Hebbon.....Annapolis, Md.
C. Rochlitz..... "
Ezra Sheckle..... "
E. H. Fendall.....Baltimore county, Md.
Andrew Banks..... "
D. Hoffman..... "
Robert Oliver..... "
Hon. John M. Frazier..... "
Levi Hoffman..... "
Peter Baer. . ..... "
F. C. Slingluff..... "
William Schaeffer..... "
James Gebhart..... "
P. H. Muller..... "
S. M. Rankin..... "
Samuel J. Buckman. ..... "
Robert W. Gibson..... "
K. B. Wells..... "
S. F. Erdman..... "
James Galloway..... "
George Gegner..... "
Wm Price ..... "
Mrs. Mary Edwards..... "
Jno. Pocock..... "
L. P. Slingluff.....Carroll county, Md.
Jacob Koons..... "
Henry S. Fitch..... "
B. W. Mister.....Dorchester county, Md.
Samuel Brawhawn..... "
Daniel M. Henry..... "
W. T. Vickers..... "
James M. Thompson..... "
James Wright..... "
William Holland..... "
E. C. Johnson..... "
Calvert Orem..... "
William Creighton..... "
John B. Nabb..... "
William H. Travers..... "
R. H. Payne.....Heathville, Va.
Benjamin Cole..... .....Harford county, Md.
A. F. Brown..... " "
Maynadier & Tydings..... " "
George Stockham..... " "
J. M. Maynadier..... " "
Samuel Sutton..... " "
William B. Michael..... " "
R. B. McCoy..... " "
George Reese..... " "
G. F. Gallaway..... ..... " "
N. G. Moore, ...Rockbridge Co., Va.

Emanuel Troxel.....Frederick county, Md.
D. Hilterbridle & Son..... " "
Castle & Maught..... " "
William Mort..... " "
D. Hilterbridle..... " "
Andrew Chambers..... .....Prince George's county, Md.
C. T. Anderson..... " "
Samuel Harding ..... " "
W. D. Barton..... " "
C. C. Kellogg..... " "
James Martin..... " "
H. H. Sasscer..... " "
T. K. Nailer..... " "
L. P. Cage..... " "
Jas. H. Rawlings..... " "
Dr. M. R. Latimer... ..... " "
J. N. W. Wilson..... " "
James Treakle.....Howard county, Md.
Union Manufacturing Co..... " "
R. S. S. Harrison..... " "
Dr. Henry... ..... " "
Henry Cragg..... " "
E. Carrington..... " "
Dr. C. C. Richardson.....Montgomery county, Md.
Henry W. Richardson..... " "
B. R. Edwards.....Alleghany county, Md.
Judge Jno. M. Buchanon..... "
Jno. Humbird..... "
Joseph Dilley..... "
Adam Sawer..... "
W. I. Griffith.....Kent county, Md.
R. A. Frazier..... "
Thomas S. Dent.....Charles county, Md.
P. A. Sasscer..... " "
Dr. John H. Turner. .....St. Mary's county, Md.
Dr. Wm. S. Keech..... " "
Joseph H. Jones..... " "
Hugh Steel..... .....Cecil county, Md.
Thomas H. Kemp..... .....Caroline county, Md.
T. F. Johnson..... " "
William Caulk.....Talbot county, Md.
Edward Ringgold.....Queen Anne's county, Md.
Hon. J. W. Crisfield.....Princess Ann, Md.
Dr. L. P. Mitchell.....Somerset county, Md.
Mrs. Dr. Mitchell..... " "
John Turner.....Wicomico county, Md.
William F. Whitbeck.....West Point, Va.
R. R. Howison.....Fredericksburg, Va.
Dr. Fred. Floyd.. .....Accomac county, Va.
Louis P. Rogers..... " "
George S. Rogers..... " "
J. P. Boggs..... " "
Alfred Lofland..... " "
H. Battaile,..... " "
Henry P. Ayres .....Northampton county, Va.
R. T. Ames..... .. " "
W. B. Wilson..... " "
Joseph Jackson..... .....Kingwood, West Va.
William Rodeheaver..... " "
Levi Klauser..... " "
Gilkeson & Pattie.....Romney, West Va.
Dr. James T. Foulks.....Guilford county, N. C.
Simon Grisel.....Jerusalem, Ohio.
Morris & Greesly..... " "
John R. Beckett.....Calvert county, Md.
Richard Roberts, Jr..... "

☞ SEE NEXT PAGE. ☜

INTERESTING TO LADIES.

The following extracts are from the testimony, taken under oath, in a recent case pending before the United States Patent Office, upon the actual merits of the

GROVER & BAKER SEWING MACHINE,

and its relative merits as compared with other machimes:

Mrs. Dr. McCready, says:

"I have used, for nine years, a GROVER & BAKER MACHINE, and upon it I have done all kinds of family sewing for the house, for my children and husband, besides a great deal of fancy work, as braiding, quilting, and embroidering. During all that time my machine has never needed repair, except when I had the tension altered, and it is as good now as it was the firstday I bought it."

* * * * * * *

"I am acquainted with the work of all the principal machines, incluuding Wheeler & Wilson's, Finkle & Lyon's, Wilcox & Gibb's, Ladd & Webster's, the Florence machines, and Sloat's machines, besides a number of ten-dollar ones; and I prefer the Grover & Baker to them all, because I consider the stitch more elastic. I have work now in the house that was doue nine years ago, which is still good; and I have never ound any of my friends who have used the other machines able to say the same thing

Mrs. Dr. Whiting gives the following reasons for the superiority of the Grover & Baker machines over all others:

"The elasticity of the stitch, and ripping when it is required; and also the stitch fastening itself, as you leave off; and also, the machine may be used for embroidering purposes; and therein consists the superiority over other machines.

"The stitch will not break when stretched, as the others do, and neither does it draw the work.

"I find this stitch will wear as long as the garments do—outwear the garments, in fact.

"I can use it from the thickest woolen cloth to Nansook muslin."

Mrs. Alice B. Whipple, wife of Rev. Mr. Whipple, Secretary of the American Missionary Association, testifies:

Q. As the result of your observation and experience, what machine do you think best as a general family instrument?

A. The Grover & Baker, decidedly.

Q. State the reasons, such of them as occur to you, for this opinion.

A. I think the stitch is a stronger stitch than that of any other machine I have used, and it seems to me much more simple in its management than other machines; one great advantage is the ease with which the seam is ripped when necessary to do so; and I think that the work, by an experienced person, on a Grover & Baker machine, is better than the work by such person on any other machine; it requires more skill to work other machines than the Grover & Baker.

Mrs. General Buel says she prefers the Grover & Baker machine over all others.

"On account of its durability of work, elasticity of stitch and strength of stitch. It never rips.

"It is preferred over all others; it is very easy in its movements, and very easily adjusted, and very simple in its construction.

"We can accomplish more in one week, by this sewing machine, than we can in a month by hand-sewing."

Mrs. Dr. Watts, says:

"I have had several years' experience with a Grover & Baker machine, which has given me great satisfaction. Its chief merit is that it makes a strong elastic stitch; it is very easily kept in order, and worked without much fatigue, which I think is a very great recommendation. I am not very familiar with any other machine, except a Wheeler & Wilson, which I have had. I think the Grover and Baker machine is more easily managed, and less liable to get out of order. I prefer the Grover & Baker, decidedly."

Mrs. A. B. Spooner, says:

"I answer conscientiously, I believe it to be the best, all things considered, of any that I have known.

"In the first place, it is very simple and easily learned; the sewing from the ordinary spool is a great advantage; the stitch is entirely reliable. It does ordinary work beautifully, and the embroidery stitch. It is not liable to get out of order. It operates very easily. I suppose I can sum it all up by saying it is a perfect machine.

"I have had occasion to compare the work with that of other machines. The result was always favorable to the Grover & Baker machine."

Mrs. Dr. Andrews, testifies:

"I prefer it to all other machiues I have known anything about, for the ease and simplicity with which it operates and is managed; for the perfect elasticity of the stitch; the ease with which the work can be ripped, if desired, and still retain its strength when the thread is cut, or accidentally broken; its adaptation to different kinds of work, from fine to coarse, without change of needle or tension."

Mrs. Maria J. Keane, of the house of Natalie, Tilman & Co., says:

"Our customers all prefer the Grover & Baker machine, for durability and beauty of stitch."

Mrs. Jennie C. Croly, ("Jenny June,") says:

"I prefer it to any machine. I like the Grover & Baker machine in the first place, because if I had any other I should still want a Grover & Baker; and, having a Grover & Baker, it answers the purpose of all the rest. It does a greater variety of work, and it is easier to learn than any other. I like the stitch because of its beauty and strength and because, although it can be taken out, it don't rip, not, even by cutting every other stitch."

The foregoing testimony establishes beyond question:

1. The great simplicity and ease of management of the Grover & Baker machines.
2. That they are not liable to get out of repair.
3. That a greater variety of work can be done with them than with other machines.
4. That the elasticity of the stitch causes the work to last longer, look neater, and wear better, than work done on other machines.
5. That the facility with which any part of the seam can be removed when desired is a great advantage.
6. That the seam will retain its strength even when cut or broken at intervals.
7. That, besides doing all varieties of work done by other sewing machines, these machines execute beautiful embroidery.

Over one hundred other witnesses in the case above referred to testified to the superiority of the Grover & Baker machines in the points named in substantially the same language, and thousands of letters have been received from parts of the world, stating all the same facts.

☞ Send for a Circular.

OFFICE AND SALES ROOMS,

jan-ly

181 Baltimore Street,

4

BALTIMORE.

TO TOBACCO PLANTERS!!

:o:

"EXCELSIOR"

NO. 1 PERUVIAN GUANO AND SOLUBLE PHOSPHATES.

Ten years' experience in the growth of Tobacco in Maryland and Virginia has demonstrated beyond doubt that "*EXCELSIOR*" has no competitor in the growth of that staple. It is the unanimous opinion of the Tobacco planters of Maryland "that from the application of 'Excelsior' the crop is heavier and of finer quality, cures earlier and better, and is not so liable to suffer from drought as from Peruvian Guano." We refer to every Tobacco planter in Maryland.

☞ *Uniformity of quality guaranteed by the manufacturers.*

PRICE SEVENTY DOLLARS PER TON.

J. J. TURNER & CO.

No. 42 PRATT STREET, BALTIMORE.

CAUTION!

The popularity of "EXCELSIOR" as the only reliable substitute for Peruvian Guano, has induced unscrupulous parties in this and other cities to use the name "EXCELSIOR" to sell their worthless compounds. Every Bag of Genuine "EXCELSIOR" has our name on it in RED LETTERS. All others are counterfeits. J. J. TURNER & CO.

To Corn and Oat Growers!

:o:

AMMONIATED BONE SUPER PHOSPHATE,

Of own manufacture, containing Ammonia 3 per cent. and Soluble Phosphate of Lime 25 per cent. The best Corn, Oat and general spring crop grower offered; dry and in good order. Uniformity of quality guaranteed.

☞ Packed in Bags and Barrels.

☞ Price $55 Per Ton. ☜

J. J. TURNER & CO.,

42 Pratt Street, Baltimore, Md.

je-1y

NAVASSA GUAN ,

The only reliable source of Rich Bone Phosphate of Lime.

The attention of manufacturers of Artificial Manures and agriculturists is called to the following analysis of Navassa Guano. The fact alone of a good and increasing market having been found in Europe for this guano, whilst none of the many Phosphates for sale in this country can there find a purchaser, speaks as favorably for the richness and reliability of our guano as it is possible, and the further fact that it is the base of nearly all the well known Artificial Manures now manufactured, and the recommendation of it by such men as Prof. Voelcker, Sibson and Liebig, is sufficient guarantee to the user that by its selection he has obtained the richest Phosphatic Material extant. We guarantee the guano to contain a given amount of Bone Phosphate of Lime, to be analyzed upon arrival by any competent chemist the purchaser may select. Supplying the trade with this Guano in fine powder, packed in strong bags, containing twenty per cent. more Phosphate than any article now offered, at $30 per ton, or crude, direct from Navassa Island, at proportionally low rates.

LABORATORY, 11 SALISBURY SQUARE, FLEET STREET.

Analysis of six samples, representing that number of cargoes, lately brought to England.

	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.
Moisture	13.61	2.73	5.51	7.70	8.77	13 07
Water in combination and Organic Matter	6.72	7.39	6.50	7.04	6.67	....
*Phosphoric Acid	30.88	32 48	31.85	31.98	31.23	31.64
Lime	32.56	31.06	37.73	35.10	37.22	37.08
Oxides of Iron, Alumina, Carbonic Acid, &c	13.88	20.16	16.09	15.60	13.80	16.01
Insoluble Silicious Matter	2.35	3.18	2.32	2.58	2.31	2.22
	100	100	100	100	100	100
*Equal to Tribasic Phosphate of Lime (bone earth)	67.41	70.90	69.50	69.81	68.18	69.07

The commercial value of Navassa Guano, it is scarcely necessary for me to say, is mainly regulated by the amount of Phosphoric Acid which it contains. In the foregoing analysis the percentage of Phosphoric Acid was accurately determined.

AUGUSTUS VOELCKER,
Prof. of Chemistry to the Royal Agricultural Society of England.

Remarks and Analysis by Dr. Sibson, of London. 11 *Eaton Terrace, St. John's Wood, Dec.*, 1867

Amongst the natural deposits of phosphates now at command for furnishing the constituents of our super-phosphates and other prepared manures at present so extensively consumed in our fields, that of the Island of Navassa, lately brought to notice, appears to be one of the most important. In the search for Natural Phosphates, now pretty actively prosecuted, materials of this description are sometimes found, which may possess a certain amount of scientific interest, but are of no practical importance, solely on account of their insignificant quantity. Again, a phosphate possessing almost every desirable quality, may be excluded from the market by the unfortunate fact of its percentage of Phosphate of Lime being too low. Neither of these drawbacks, however, attach to the Navassa Guano.

As I find from analyses of several cargoes lately brought to this country, that the Navassa Guano possesses a high value, I consider that it merits more than ordinary attention.

	No. 1.	No. 2.	No 3.	No 4.	No. 5.	No. 6.
Moisture and Water of Combination	10.24	9 25	5.73	12.90	11.15	6.53
*Phosphoric Acid	32.94	32.57	33.43	32.21	31.27	33.03
Lime	37.91	37.34	40.15	36.13	34.90	37.20
Carbonic Acid	1.30	1.20	(not determined.)		1.68	1.02
Equal to Carbonate of Lime	2.95	2.72	"	"	3.75	232
Oxide of Iron, &c	15.36	17.18	17.85	16.63	15 83	18.94
Insoluble Matter	2.25	2.46	2 84	2.13	5.17	3.98
	100	100	100	100	100	100
*Equal to Tribasic Phosphate of Lime	71.36	70.57	72.43	69.80	67.76	71.58

The average percentage of Phosphate of Lime, in most samples, I find to be over 70 per cent., which as an average, is higher than most Phosphatic materials now on the market.

ALFRED SIBSON, F. C. S., &c. *Royal Agricultural College, Cirencester, England.*

Analysis by Dr. Liebig, Baltimore, of cargoes lately imported.

Bark Savannah...June 8, 1868, containing, crude, 69.94—when dried, 76.61 per cent of Bone Phosphate of Lime.
Brig Cyrus Fassett, " 27, 1868, " " 68.89 " " 75.16 " " "
Brig Fidelia..... " 10, 1868, " " 68.87 " " 75.44 " " "
Brig M. E. Banks..May 8, 1868, " " 66.03 " " 73.59 " " "
Brig Romance....June 16, 1868, " " 69.14 " " 76.61 " " "
Brig E. H. Rich..Sept. 21, 1868, " " 68.57 " " 74.56 " " "
Brig Diego.....Aug. 12, 1868, " " 67.00 " " 75.16 " " "

For Sale by Navassa Phosphate Co.

R. W. L. RASIN, General Agent,

32 SOUTH STREET, BALTIMORE.

dec-tf